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Two Copper-Plate. of Śaśāṅka from Midnapore.

By DR. R. C. MAJUMDAR.

These **two plates** were secured by Mr. B. R. Sen, I.C.S., Collector of Midnapore, in August, 1937, from an inhabitant of the district, but no details of their actual find-place are known. Mr. Sen presented the plates to the local *Sāhitya Parishad*, a literary association, and Mr. Manishi Nath Basu gave a short account of them in a local Journal *Mādhavī* (Āṣāḍh, 1345 B.S., pp. 3ff.). The plates, however, remained unknown, for all practical purposes, to scholars, and I find no reference to them in any discussion about Śaśāṅka during the last seven years. In course of a short visit to Midnapore I was agreeably surprised to find these plates lying in the Museum of the *Parishad*, and with the kind permission of the authorities, brought them to Calcutta. Mr. T. Ramachandram, Superintendent of the Indian Museum, Archaeology Section, very kindly cleaned the plates and prepared estampages of them. I am editing the inscriptions from the original plates which have been returned to the authorities of the *Sāhitya Parishad*, Midnapore.

As soon as the plates were brought to Calcutta they excited great interest, and at my suggestion, Dr. D. C. Sircar, who read the plates along with me, published a short account of them in the Bengali Journal *Prabāsi* (Śrāvaṇa, 1350, pp. 291ff.).

The **Plate No. I** measures 8" × 5½" and contains 15 lines of writing engraved on one side only. A circular **seal** is soldered to the middle of the narrower side on the proper right. It is 1½" in diameter, and on its surface is engraved, in relief, inside a slightly raised circular rim, a vase of a somewhat peculiar shape on a flat pedestal, with a few wavy lines on each side and on the top. It is most probably a representation of a sacred incense-burner between flowers and foliage. Beneath the vase, between two parallel thick double lines, is the legend 'Tāvīr-ādhikaraṇasya'. Mr. T. Ramachandram informs me that vases of a shape similar to that on the seal have been found amid the ruins of Tamluk, the site of the ancient city of Tāmralipti, in the district of Midnapore. A portion of the upper and lower right corners of the plate is broken away, and a small part of the remaining right end of the plate is badly corroded. Consequently some letters at the end of ll. 1-6 and 13-15 are missing, and some of ll. 9-11 cannot be read. One or two letters at the beginning of ll. 1 and 15 are also broken off.

The **Plate No. II** measures 6½" × 4½" and contains 12 lines of writing engraved on one side, and only six letters in a single line on the other. The **seal**, which is an almost exact replica of that in No. I, is 1·2" in diameter. The plate is in a fair state of preservation, save that a very small part of the left-hand side, both at the top and the bottom, is corroded and broken off.

The **alphabet** belongs to the type used in North-East India during the period 550-650 A.D. and shows some divergence from those used in the Ganjam plates of Śaśāṅka. While editing the four copper-plates from Soro, Mr. N. G. Majumdar¹ noted the following as chief points of difference, in respect of alphabet, exhibited by the Ganjam plates:—

1. The acute-angled type with nail-heads.
2. Medial *i* and *ī* strokes often extending below the head of the letter.
3. Later form of *j*.
4. The letter *r* with a stroke added to its base on the left side.
5. The letter *s* with an oval loop at the top.

The absence of these in the Soro plates led Mr. Majumdar to conclude that the Soro plates should be placed somewhat earlier than the Ganjam plates. Now, as the present plates which show, in respect of these points, a close resemblance with the

¹ *E.I.*, Vol. XXIII, p. 198.

Soro plates B, C, D, belong, like the Ganjam plates, to the reign of king Śaśāṅka, the differences must be regarded as due to locality rather than age. In any case, there is no reason to conclude, on grounds of palaeography, that the Soro plates B, C, D were earlier than the present plates.

The **language** is Sanskrit, and except a portion of the first line, containing the date, both the grants are written in verses, all in *anuṣṭubh* or *śloka* metre.

As regards *orthography*, the following points may be noted. The same sign is used for *b* and *v*. *Anusvāra* is used for final *m*. Final consonants *k*, *t* and *n* are indicated by a short slanting stroke below the letter (*prīhak* in Pl. I, l. 6, *bhavēt* in Pl. I, l. 14 and Pl. II, l. 13 and *drōnān* in Pl. II, l. 9). In Pl. I *t* is doubled before *r* (*pōttra*¹ in l. 1, *ēkattra* in l. 7, *mātrā* in l. 9, and *attra* in l. 13) and consonants after *r* are also occasionally doubled (*prakīrṇa* in l. 7, *sarvvān* in ll. 8, 9, 13, *carmma* in l. 9, *rvvācam* in l. 10, *anuvarttinā* in l. 11 and *varjita* in l. 13; but we have *caturjaladhi* in l. 3, *bhūmergo*² in l. 9, *svarga* in l. 10 and *adharyavē* in l. 12). This irregularity in the doubling of consonants before and after *r* is remarkably exhibited in Pl. II, where in several cases it spells differently the words used in Pl. I. Thus we have *pōtra*³ (l. 1), *caturjyaladhi* (l. 3) and *varjita* (l. 6). Further, in Pl. II, consonants are doubled in *kīrti* (ll. 6, 8), *varttamāna* (l. 8), *gōttra* (l. 10) and *pittrōḥ* (l. 11), but not in *gāmbhīrya* (l. 4), *dharma* and *śāstra* (l. 7), and *ñ* is used instead of *n* in *cavārīnśad* (l. 9).

Both the plates are **dated**. But unfortunately, I am unable to interpret the numerical symbols with any certainty. All that I can do is to offer alternative suggestions based on a comparison with similar symbols known from other records.

The upper left corner of Pl. I is broken and one, or possibly two, letters are missing. The first letter that can be read looks very much like the lower part of *mva*. The next letter looks like *tt* with a thick horizontal stroke a little to the right of the top. We may take it as final *t* on the analogy of the Soro plates B (l. 20), C (l. 17), D (l. 14), and the Amauna Plate¹ (l. 8). It is true that the final *t* is written in a different way in the present records, viz. a short form of ordinary *t* with a slanting stroke beneath it (Pl. II, l. 13). But we find the same thing in the Antirigam Plate (*E.I.*, Vol. XVIII, p. 298, l. 30). On the other hand it may be noted that the sign *tt* is used as the numerical symbol for 5 in the Siddhantam Plate.² So far as Pl. I is concerned there is no difficulty in taking it as final *t* and restoring the first word [*sa*] *mvat*. The two signs that follow are undoubtedly numerical symbols or figures. The first resembles the symbol for 100 with this difference that the right-hand vertical stroke makes a sharp curve open to the right instead of a more gentle curve on the left. It possesses the closest resemblance to the symbol for 300 used in the Vadner Plate of Buddhārāja³ (l. 34). Indeed, I would have no hesitation in interpreting it as 300 but for the fact that it closely resembles the first of the two symbols used to denote the day of the month in both Pls. I and II. There is, no doubt, some difference. In the symbol for the year the curves, both on the upper left and lower right ends of the letter, are more open, and there are faint traces of a stroke, like an *ā-kāra* sign, at the top. In the case of the symbol denoting the day of the month we have, of course, to take it as 10 and find an analogy in the form used in the Buddha image inscription of the reign of Mahendrapāla from Behar-Shariff.⁴ It is to be noted that we have the symbols for 20 and 10, used respectively in one and three instances, in the Soro plates of Sōmadatta, but they have the usual form derived from the Gupta symbol and have not the least resemblance with the signs used in the present plates.

The next letter is the usual symbol for 30. But here, again, this interpretation is rendered doubtful by the occurrence of a similar symbol as the second figure of the day of the month. In the latter case we may interpret it as 9 on the analogy of the Paharpur Plate⁵ (l. 20) and Svalpa-Velur Grant⁶ (l. 29). In both these cases

¹ *E.I.*, Vol. X, p. 51.

² *E.I.*, Vol. XII, p. 35.

³ *Nalanda and its Epigraphic Material (MASI. No. 66)*, p. 105, Pl. XI, d.

⁴ *E.I.*, Vol. XX, p. 63.

⁵ *E.I.*, Vol. XIII, p. 215, l. 29.

⁶ *E.I.*, Vol. XXIV, p. 125.

a similar sign¹ has been so read, though I do not know on what basis. It is to be noted that the letter *l*, used for 30, has also been used in some cases with a rounded top for the decimal figure 3.² Whether in the two cases referred to above, and in the present plates the letter *l* should also be read as 3, rather than 9, is worthy of consideration. This detailed discussion shows that the reading of the date is uncertain, but we may provisionally read the year as 309 or 19. In the former case it has to be referred to the Gupta era and the date would be equivalent to 629 A.D. But the latter is more probable and we may regard the record as dated in the 19th year.

In Pl. No. II the first distinct letter in l. 1 is *tta* with a horizontal stroke on the top which we have discussed above. If it is taken as the final *t* we should expect *saiva* or *samva* before, and some numerical figures after, it. The letter preceding *tta* is very indistinct, but what remains does not tally with any possible form for *va* or *mva*. The little that remains of the letter before it also does not look like *s*. The letter immediately following *tta* is simply a vertical stroke with a thickening at the top exactly like the letter *ra*. The lower part of the preceding letter being almost attached with its lower end, it looks like *la* on the estampage (though very different from the second numerical symbol in Pl. I), but a close examination of the original plate leaves no doubt that the vertical stroke forms a distinct letter. That this, together with the three (or four, for there is space for a letter in the broken corner on the left) preceding letters, denotes the year is proved beyond doubt by the expression that follows. In Bühler's Chart a vertical stroke with a *mātrā* is given as symbol for 1,000 (Pl. IX, Col. III) and the same is used in records of the Gupta period for 8.³ In spite of all appearances to the contrary, we may, therefore, provisionally read the whole as *samval* 8.

Pl. I records that while Śaśāṅka was ruling the earth his feudatory *Sāmanta-Mahārāja Śrī-Sōmadatta* was governing the province of *Daṇḍabhukti* joined to *Utkala-dēśa*. The object of the grant is to register the donation of the village *Mahā-Kumbhārapadraka* to *Bhaṭṭāśvara*.

Pl. II records that while Śaśāṅka was ruling the earth, *Mahā-Pratīhāra Śubhakīrtti* was governing *Daṇḍabhukti*. The object of the grant is to register the donation of some lands in the village *Kumbhārapadraka*, in the *dēśa Kētakapadrika*, to *Dāmyasvāmin*. The donated lands, in both the grants, were situated in the *Tāvira adhikaraṇa* to which belong the seals affixed to both the plates.

Now two of the Soro plates, mentioned above, record the grant of two villages by *Mahā-Balādhikṛta, Antaraṇḍa, Mahā-Sāndhivigrahika Sōmadatta*. These villages were situated in the *Sarēph-āhāra-viśaya* in *Uttara-Tōsali* which again formed a part of the *Ōdra-viśaya*. As Mr. N. G. Majumdar has pointed out, *Uttara-Tōsali* included the Balasore district, and *Sarēphā* is to be identified with Soro in the same district. As *Sōmadatta* of the present Pl. I was governing both *Daṇḍabhukti* and *Utkala*, the region comprising the southern part of Midnapore and the Balasore district must be regarded as within his jurisdiction. As palaeographically also, the two Soro plates of *Sōmadatta* belong to the same period as the present Pl. I, it may be presumed that all the three plates refer to the same individual. The two Soro plates of *Sōmadatta* refer to, but do not mention the name of, his suzerain lord. In the light of the present Pl. I we may identify him with king Śaśāṅka.

If these identities be presumed, the four Soro plates, along with the present Pl. I, supply interesting information regarding the history of northern Orissa in the sixth century A.D.

The Ganjam plates show that the suzerainty of Śaśāṅka was acknowledged by the Śailōdbhava rulers of Kōṅgōḍa, which certainly comprised southern Orissa, in the year 619 A.D.⁴ But we had hitherto no means to ascertain, either the stages by which Śaśāṅka, king of Gauḍa, gradually extended his sway so far south, or the

¹ According to Mr. S. N. Chakravarty the symbol for nine in the Paharpur CP. resembles the *au* vowel (*J.A.S.B.L.*, No. IV, p. 388), but the published facsimile shows a clear *la* sign.

² Jirjīngi Plate, *E.I.*, Vol. XXV, p. 281; Purle Plate, *E.I.*, Vol. XIV, p. 361; Chicacole Plate, *E.I.*, Vol. III, p. 131.

³ Baigram Plate (l. 25), *E.I.*, Vol. XXI, p. 81.

⁴ *J.A.H.R.S.*, Vol. X, pp. 7-8.

degree of subjection in which the region lying between Gauda and Kōngōda was held by him. The present plates inform us that Śaśāṅka conquered at first *Daṇḍabhukti* and then *Utkala*. The two Soro plates of Sōmadatta and the present Pl. II show that at first both Daṇḍabhukti and Utkala formed integral parts of Śaśāṅka's dominions and were ruled by his own officers; the former by *Mahā-Pratīhāra Śubhakīrti*, and the latter by *Mahā-Balādhikṛta, Antaraṅga, Mahā-Sāndhivigraha* Sōmadatta. Pl. I evidently refers to a later period when Sōmadatta was raised to the rank of *Sāmanta-Mahārāja* and ruled over both the provinces under the suzerainty of Śaśāṅka;—an administrative arrangement analogous to that introduced in Kōngōda-*maṇḍala* or southern Orissa, which Śaśāṅka presumably conquered later.

According to Soro Pl. A, the region which Sōmadatta governed, *viz.* Uttara-Tōsali, was in possession of Śambhuyaśas in the year 260 of an unspecified era. The same king Śambhuyaśas seems also to be referred to as the ruler of Dakṣiṇa-Tōsali in the Patiakella Grant¹ dated probably in the year 283 of the same era. Mr. R. D. Banerji, who edited the later plate, referred the year to the Gupta era. But Mr. N. G. Majumdar held that as the alphabets in the Soro plates B, C, D were earlier than those of Ganjam plates, dated 619 A.D., and those in the Soro plate A were still earlier, this last should be assigned to the second half of the sixth century A.D.² and the year referred to the Kalacuri era. As shown above, the present plates prove that the Soro plates B, C, D may be regarded as contemporaneous with the Ganjam plates, and as such the Soro plate A may belong to the latter half of the sixth century A.D. Thus the date 260 of this plate should be referred to the Gupta era which is proved by the Ganjam plates to have been current in that area, and it is unnecessary, on palaeographic grounds, to fall back upon the Kalacuri era which is not known to have been used in Orissa.

If, then, Śambhuyaśas ruled in N. Tōsali in the year 580 A.D., it may be safely presumed that he or his successor was defeated by Śaśāṅka. If the date of the Patiakella Grant is really 283 (= 603 A.D.), we have to assume that the conquest of Kōngōda by Śaśāṅka did not take place till some time after this date. If, as seems probable, the southern campaigns of Śaśāṅka were finished before he set out for Kanauj about 606 A.D., his conquest of Daṇḍabhukti, Utkala and Kōngōda may be put between 580 and 605 A.D.

Incidentally, this reveals an unknown chapter in the history of Eastern India. It appears from the Patiakella Grant that Śambhuyaśas was ruling South Tōsali during the reign of the Māna Dynasty (*Mānavamśa-rājya-kālē*).³ Whether Śambhuyaśas himself was the suzerain ruler belonging to this dynasty is not clearly stated. Mr. Banerji, who edited the grant, observes that 'Śambhuyaśas is styled *Paramamāheśvara Paramabhāṭṭāraka Paramadēvatādhidaivata* which clearly shows his imperial position'. This statement is, however, not strictly accurate. According to Mr. Banerji's own translation, the inscription merely says that while *Parama-Māheśvara* Śambhuyaśas was ruling in southern Tōsali, *Mahārāja* Śivarāja had obtained the position of a ruler of the earth from the *Parama-dēvat-ādhidaivata Parama-Bhāṭṭāraka*. Evidently Mr. Banerji has taken this overlord to be Śambhuyaśas. Such an interpretation is not an unreasonable one, but cannot be regarded as certain, particularly when the latter is styled simply as *Parama-Māheśvara* and is said to have been ruling in southern Tōsali. The main ground of that interpretation is, of course, the absence of any other ruler, mentioned in that record, to whom these titles can be applied. But it is to be remembered in this connection that the Soro plates B, C, D use the phrase *Parama-daivat-ādhidaivata-śrī-Parama-Bhāṭṭāraka-pād-ānudhyāta* without mentioning his name. The same may be the case with the Patiakella Grant. But in the Soro Pl. A, the corresponding phrase is *Parama-daivata-Vappa-pād-ānudhyāta*. This may mean that Śambhuyaśas' father was his suzerain

¹ *E.I.*, Vol. IX, p. 285.

² *E.I.*, Vol. XXIII, p. 198.

³ Mr. R. D. Banerji takes this expression along with the year and translates: 'In the [two hundred] and eighty-third year of the rule of the Māna family.' There does not seem to be any justification for this rendering which would imply the existence of a Māna era.

or overlord, and from the use of similar phraseology elsewhere we may even presume that he had inherited his father's position. Thus while there is no definite reference, as Mr. Banerji presumes, to the imperial position of Śambhuyaśas, this may be assumed to be the case. But, then, we should rather take '*daṣṣiṇa-Tōsalyām*' in l. 4 of the Patiakella Grant along with Śivarāja rather than with Śambhuyaśas, as Mr. Banerji has done. In other words ll. 1-5 of this grant should be taken to mean that during the rule of the Māṇa family, while Śambhuyaśas was ruling the earth, Śivarāja (issued the command) from Vōrtanoka in South Tōsali, etc.

This Māṇa family has a long history which Mr. Banerji has overlooked. He observes: 'This dynasty has been mentioned in two twelfth century inscriptions only, viz. the Nawādā Inscription of the Śaka year 1059 and in the Dudhpani rock inscription.' This is a serious blunder, for the Dudhpani rock inscription which gives the traditional account of the rise of the Māṇa family of rulers belongs to the seventh or eighth, and not twelfth century A.D., as Mr. Banerji supposes. Prof. Kielhorn, who edited this inscription,² says that 'the characters are essentially the same as, but somewhat more modern than, those of the Apsad inscription of Ādityasena and may be assigned to about the eighth century A.D.' It is clear from the inscription itself that the events, leading to the establishment of the Māṇa kingdom as described therein, had happened many generations before it was engraved. It may, therefore, be safely presumed, that the Dudhpani rock inscription preserves an account of the origin of the Māṇa ruling family to which Śambhuyaśas belonged. This family claimed to rule over Magadha towards the end of the eleventh and at the beginning of the twelfth century A.D., but it would be wrong to assume, as Dr. H. C. Ray has done, that the family 'first rose into importance in the eighth century A.D. and remained petty feudatory chiefs for about four centuries, at the end of which they emerge as independent rulers'.³ The combined testimony of the Soro plates, the Patiakella Grant, and the present plates proves that the Māṇas, whose original principality lay, according to Dudhpani rock inscription, somewhere in the hilly region between Midnapore and Gaya districts, gradually extended their sway over nearly the whole of modern Orissa by the latter part of the sixth century A.D. It is presumably by defeating this Māṇa dynasty that Śaśāṅka conquered Utkala, Kōṅgōḍa, and probably also Daṇḍabhukti.

A comparison of the Soro plates B and C with D leaves no doubt that Sōmadatta was succeeded by Bhānudatta in the government of Uttara-Tōsali. For the names of the two donees in the first two plates reappear, along with two others, in the third, and the name Āruṅgasvāmī of the former is changed to Āruṅganitrasvāmī in the latter. The same Bhānudatta is also referred to in another plate found near Balasore.⁴ Bhānudatta bears the titles *Mahā-Pratīhāra-Mahārāja* in the Soro plate D, while the title *Mahā-sāmanta* is added in the Balasore plate which was engraved only three months before. Sōmadatta is called *Sāmanta-Mahārāja* in Pl. I, while Śubhakīrtti, mentioned as ruler of Daṇḍabhukti in Pl. II, has only the title *Mahā-Pratīhāra*. On the basis of the titles of the rulers and the governors, as given in the different plates, we may provisionally reconstruct the different stages in the administration of Utkala and Daṇḍabhukti, and chronologically arrange them as follows:—

1. *Mahā-Pratīhāra* Śubhakīrtti governing Daṇḍabhukti on behalf of Śaśāṅka (Pl. II.)
2. *Mahā-Balādhikṛta-Antaraṅga-Mahā-Sāndhivigrahika* Sōmadatta ruling in Odra or Utkala (Soro Pls. B, C).
3. Sōmadatta, raised to the dignity of *Sāmanta-Mahārāja*, ruling over both Utkala and Daṇḍabhukti as a feudatory of Śaśāṅka (Pl. I).
4. *Mahā-Pratīhāra Mahā-Sāmanta Mahārāja* Bhānudatta ruling over Utkala, and possibly also over Daṇḍabhukti (Soro Pl. D).

¹ The family name is spelt as Māṇa in both Nawada and Dudhpani inscriptions.

² *E.I.*, Vol. II, p. 343.

³ *Dyn. Hist. N. Ind.*, Vol. I, pp. 348-49.

⁴ *I.H.Q.*, Vol. XI, p. 611; *E.I.*, Vol. XXVI, p. 239.

Although we have no definite information that Śaśāṅka was the suzerain of Bhānudatta, that seems to be the most likely conclusion as Śaśāṅka's empire most probably perished with him.

The two Soro plates of Sōmadatta are dated in the year 15, and those of Bhānudatta, in the year 5. This shows that these dates are not to be taken as the regnal year of the suzerain as should normally be the case, but have to be referred to the period of office of Sōmadatta and Bhānudatta. As already noted above, the readings of the dates of the present plates are uncertain. If we assume Pls. I and II to be dated respectively in the nineteenth and eighth years, the different stages in the conquest and administration, sketched above, must have covered a period of at least 32 years.

Of the actual system of administration some details are furnished by the two plates regarding the Tāvira-*adhikaraṇa* from which they were issued. It seems to have been the administrative headquarters of a *maṇḍala*.¹ In Pl. I it is not quite clear whether the communication about the grant is made by the Tāvira-office, or to it by *amātya Prakīrṇadāsa*. In Pl. II, however, there is no doubt that the sale of the land and its grant are announced by the Tāvira-*karana*. It is, therefore, reasonable to accept this meaning in the other plate too. The second half of v. 7, Pl. I, and the first half of v. 6, Pl. II seem to convey some information about the constitution of the Tāvira-*adhikaraṇa*, but unfortunately the full implication of the two qualifying expressions '*lōkasaṅgatam*' and '*vipra-pradhāna-saṅgatam*' is not easy to understand. Dr. Sircar takes them to mean that the *adhikaraṇa* was composed of Brāhmaṇa elders in one case and the public in the other,² but this presumed difference in the constitution of the same *adhikaraṇa* within a comparatively short time goes against this interpretation. The only other possible alternative is that the communication was addressed to the association of Brāhmaṇa elders in one case, and to the people in general in the other. This difference, however, is also not easy to explain.

The word '*karana*', used in both the plates, is obviously an abbreviation of *adhikaraṇa* mentioned in the seals. In Pl. II, the word '*adhi*' also apparently stands for *adhikaraṇika* or members of the *adhikaraṇa*. It is interesting to note that the imprecatory verses are hardly in keeping with the context, as they contain admonitions to 'those born in our family' which can only refer to a king and not to an *adhikaraṇa*.

The village granted in Pl. I is named 'Muhā-kumbhārapadraka' which is probably a mistake for 'Mahā°' and is to be distinguished from the village of the same name, but without the prefix, mentioned in Pl. II. In the latter case, certain specified quantities of land in the village are granted, viz. 40 *drōṇas* and 1 *drōṇavāpa* of *vāstu* land. *Vāstu* means homestead lands, and consequently we may infer that 40 *drōṇas* refer to either *khila* (waste) or agricultural lands, though this is not mentioned in the grant. *Drōṇavāpa*, as a technical term of land-measurement, is well known, but its exact equivalent in modern measures cannot be determined.³ According to Sanskrit lexicons a *drōṇavāpa* is equivalent to one-eighth of a *kulyavāpa*, and this is corroborated by epigraphic evidence. *Drōṇa* is an abbreviated form of *drōṇavāpa*, and is even now current in Bengal.

In Pl. I the entire village of Muhā-kumbhārapadraka is granted. The qualifying epithet '*sarva-maṇḍala-varjita*' is not easy to understand. It may mean that the village is separated from the *maṇḍala*, i.e. the administrative unit within which it was situated, with the object, apparently, of exempting it from taxes, duties and other obligations to which other villages were subject, but this is by no means clear.

It is interesting to note that the lands were purchased, even by the ruling authority, from the local *adhikaraṇa*, as is clearly mentioned in Pl. II. The contemporary records from other parts of Bengal refer to similar transactions with more details.⁴

¹ This is not clearly stated; but seems to follow from v. 10, Pl. I.

² *Prabāṣi*, 1350, p. 294.

³ Cf. *History of Bengal* (Dacca University), Vol. I, pp. 651-52.

⁴ *Ibid.*, pp. 266-67.

As regards **localities** mentioned in the inscriptions, **Daṇḍabhukti** and **Utkala** are well known. Pargiter distinguished the **Utkala** country from **Īdra**. According to him the former 'comprised the southern portion of Chuta Nagpur, the Northern Tributary States of Orissa and the Balasore district'.¹ Dr. H. C. Ray also follows him and places **Īdra** to the south of **Utkala**, in the Cuttack district.² But the epigraphic evidence proves that they were used as synonymous terms for modern Orissa. In the Soro plate B, Sarēphā, which is undoubtedly Soro in Balasore district, is said to be situated in Uttara-Tōsalī which was again comprised in **Īdra-viṣaya**. Now, it is well known that **Īdra** is the original form of the modern name Orissa, and the Soro plate proves that even in the sixth century A.D., the name **Īdra** was applied to the northern extremity of modern Orissa. According to the Bhuvanesvar inscription,³ dated 1200 A.D., on the other hand, **Utkala-viṣaya** comprises Bhuvanesvar in the Puri district. The Dirghasi Stone Inscription⁴ dated A.D. 1075, uses the term **Utkala** in the Sanskrit and **Īḍa** in the Telugu portion in the list of countries conquered by Vanapati. Other evidences may be cited to show the identity of **Utkala** and **Īdra**. Its antiquity goes back to the time of Kālidāsa who uses **Utkala** as a general designation for the country between **Suhma** (W. Bengal) and **Kaliṅga**.⁵

The northern boundary of **Utkala** or **Īdra** seems to have varied in different ages. But we can fix it with a tolerable degree of certainty for the sixth century A.D. Pl. I shows that **Daṇḍabhukti** and **Utkala** were coterminous, and the former certainly comprised the Midnapore district or at least the greater part of it. That it did not extend much further south into the Balasore district is proved by the Soro Pl. B, as mentioned above. Thus the present boundary line between Balasore and Midnapore districts roughly corresponds to that between ancient **Daṇḍabhukti** and **Īdra** or **Utkala**.

The present plates contain the earliest reference to **Daṇḍabhukti** and push back the antiquity of the name by nearly four centuries. For the next mention of it occurs in the Irda CP.⁶ belonging to the tenth century A.D. But in the latter period it had ceased to be an independent administrative unit of the *bhukti* class and is referred to as **Daṇḍabhukti-maṇḍala** comprised within the **Vardhamāna-bhukti**. It is probable, therefore, that Śaśāṅka created this new *bhukti* when he conquered the southern districts, but in course of time it was incorporated into the **Vardhamāna-bhukti**, though curiously enough, the suffix *bhukti* was not discontinued. Evidently, like **Tirabhukti** in North Bihar, *bhukti* came to be a part and parcel of the geographical name **Daṇḍabhukti** irrespective of its original connotation as an administrative unit. **Daṇḍabhukti**, as the name of a principality, occurs in the list of countries conquered by Rājendra Chōla and of the feudal States that helped Rāmapāla in his fight against the Kaivarta chief Bhīma. In the former it figures as a neighbouring State of **Īḍa**, and in the latter, that of **Utkala**.⁷

Tāvira, the administrative headquarters in **Daṇḍabhukti**, from which both the grants were issued, may be identified with Debra about 15 miles south-east of Midnapore, and shown in Rennel's Map No. IX. The village **Kumbhārapadraka** and **dēśa Kētakapadrika** I am unable to identify.

TEXT No. I.

1. [Sa*]mvat 10, 9 Bhādra di 10, 9 [||*] Viṣṇōh pōṭṭr-āgra-vikṣēpa-kṣaṇabhā[vita-sādhvasām | sēs-ā.*]
2. śeṣa-śirō-madhyam=adhyāsina-mahā-tanuṁ || [1 ||*] Kām-ārāti-śirō-bhraṣṭa-[Gaṅg-augha-dhvasta.*]
3. kalmaṣām [1 ||*] Śrī-Śaśāṅkē mahīm pāti catur-jaladhi-mēkhalām || [2 ||*] Tasya pāda-na[kha-jyōtsnā.*]

¹ *Mārkaṇḍeya Purāna*—English Transl., p. 327, note.

² *Op. cit.*, Map 7. But on p. 461 Dr. Ray regards **Utkala** and **Īḍa** as identical.

³ *E.I.*, Vol. XIII, p. 150.

⁴ *Raghuvamśa*, IV, v. 38.

⁵ *History of Bengal* (Dacca Univ.), pp. 23, 32, 138, 157.

⁶ *E.I.*, Vol. IV, p. 314.

⁷ *E.I.*, Vol. XXII, p. 150.

4. vibhūṣita-sirō-manau [1*] Śrī-sāmanta-mahārāja-Sōmadattē guṇādhikē || [3*]
Sa¹ × × ×
5. gam-ōtsanna-kālēya-dhvānta-saṁhatau [1*] Sahitām=Utkala-dēśēna Daṇḍa-
bhuktiṁ praśā[sati || 4*]
6. Satya-śaurya-kṛt-āstratva-rūpa-vidyādayaḥ prthak [1*] Pāṇḍavēṣu sthitāḥ
santi ya[smi]
7. nn=ēkattra tē guṇāḥ || [5*] Amātyō yasya guṇavān=Prakīrṇadāsa iti
śrutāḥ [1*] Sādhu-kāri-
8. tayā nityaṁ yaḥ pūjyāḥ pūjyatē dvijaiḥ || [6*] Āgāminō nṛpān=sarvvān
jñāpayitvā
9. praṇamya ca [1*] Prāha Tāvīrakam sarvvān karaṇāṁ lōka-saṅgataṁ || [7*]
Bhūmēr=gō-carma-mātrā[yāḥ*]
10. dānē svargāḥ phalaṁ smṛtāṁ [1*] Parāśara-sutasya=ōccair=vvācam śrutv=
ēti bhāsitāṁ || [8*] Tēn=[ēdām ca*]
11. samāmnāta[m*] Manu-sāstr-ānuvartinā [1*] Śrī-sāmāntēna kṛtinā Sōmadattē
[na]
12. dāmatā || [9*] Bhaṭṭeśvarāya guṇinē Kāśyapāy=ādhvaryavē [1*] Muhā(?)-
Kumbhārapadrakō=
13. dattaḥ sarvva-maṇḍala-varjita[h*] || [10*]
Tad=yō=ttr=āsmat-kulē jāto mōhād=anyō=pi vā [naraḥ 1*]
14. Pāpāṁ prakurūtē lōbhān=mahā-pātakavān=bhavēt || [11*] Sukhānām=
anva × × × ×
15. × × sy=āty-alpa-dhīmataḥ [1*] Dvija-dēvasya bhāhētōḥ ślōkāḥ × × × ×
sahitā × ×

TRANSLATION.

(Ll. 1-2)—Year 19, 19th day of *Bṛādra*.

While the illustrious **Śaśāṅka** is protecting the earth,—whose girdle is formed by the four oceans; whose sins are washed away by the Ganges fallen from the head of the enemy of the Cupid (*i.e. Śiva*); whose great body is placed in the middle of the infinite hoods of the *Śeṣa* (*Nāga*); and who was agitated when *Viṣṇu* (*in the form of a boar*) cast his snout (*to raise her*) (vv. 1-2).

(Ll. 3-9)—While **Daṇḍabhukti**, along with **Utkala**, is being ruled by the illustrious feudatory **Mahārāja Sōmadatta**—the jewel on whose head shines by the light of the nails of his (*Śaśāṅka's*) feet: who has excessive virtues: by whose the mass of darkness, due to *Kali* age, is dispelled (vv. 3-4): in whom are found together the virtues such as truth, prowess, skill in wielding arms, beauty and learning which were possessed separately by the (*five*) *Pāṇḍavas* (v. 5); whose excellent minister, known as **Prakīrṇadāsa**, and daily worshipped for his good deeds by the *Brāhmanas* who are themselves worthy of worship (v. 6), having saluted and informed all the future kings, addressed all the officers and people of **Tāvira** (*as follows*) (v. 7).

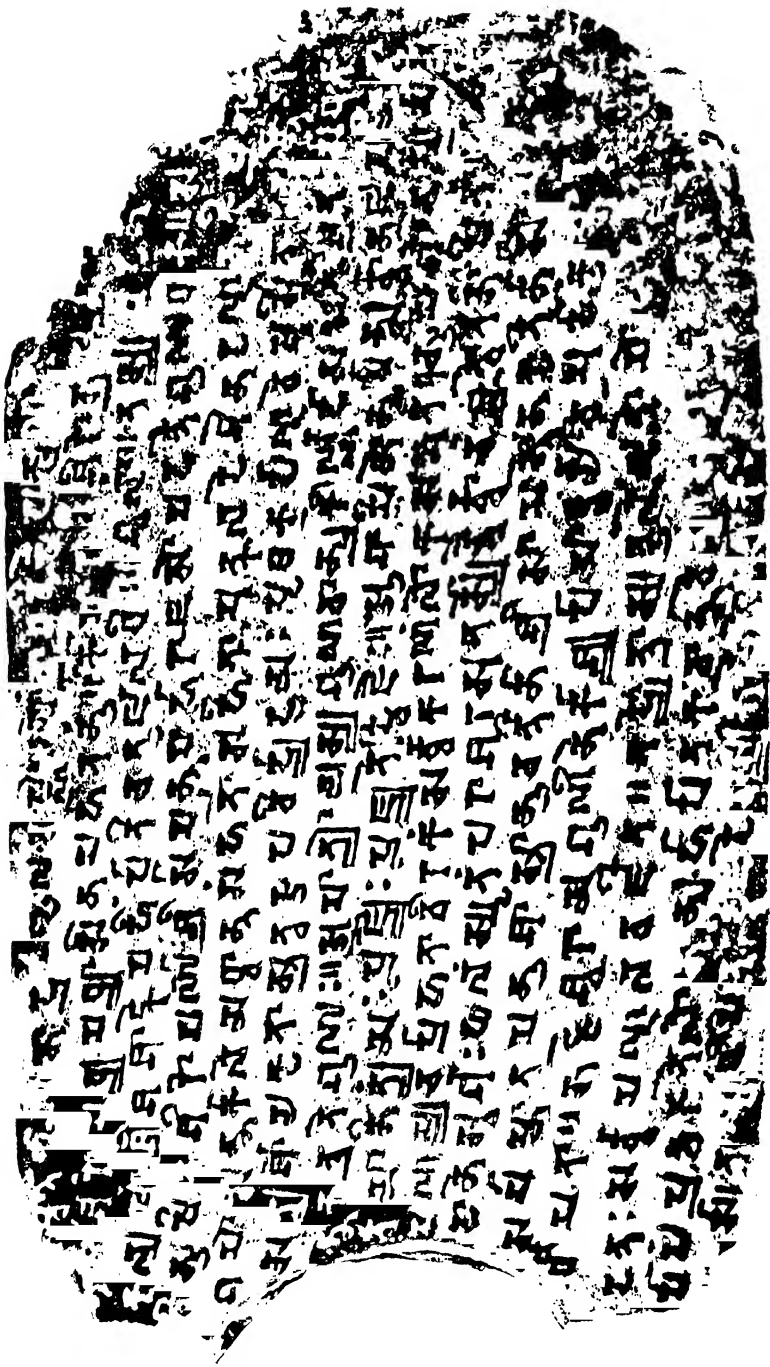
(Ll. 9-10)—It is loudly proclaimed by the son of *Parāśara* (*Vyāsa*) and (*consequently*) held that the gift of even a *gō-carma* measure (*i.e. 150 cubits square*) of land leads to the attainment of heaven (v. 8).

(Ll. 11-13)—Hence the successful, intelligent and illustrious feudatory **Sōmadatta**, who follows the Law-Code of *Manu*, has ordered as follows (v. 9):—

The village of **Muhā-Kumbhārapadraka**, detached from the district (?), has been given to the meritorious priest **Bhaṭṭeśvara** (*of the*) **Kāśyapa** (*gōtra*) (v. 10).

(Then follow the imprecatory verses, vv. 11-12.)

¹ Three letters are missing here. Dr. D. C. Sircar restores them as '*tva sama*', but the second letter shows distinctly a thick stroke at the top indicating a superscript *r* or *ā-kāra*.



No. II.

First side.

1. [Samvāt] 8 Pauṣa di 10 2 asmin-divasa-māsa-samvatsarē || Viṣṇoḥ pōtr-āgra-vikṣē-
2. pa-kṣaṇa-bhāvita-sādhasām [1 *] Śeṣ-āsēṣa-śirō-madhyam=adhyāsina-mahā-tanuṁ || [1 *] Kām-ārā-
3. ti-śirō-bhraṣṭa-Gaṅg-augha-dhva[sta*] -kalmaṣām [1 *] Śrī-Śaśāṅkē mahim=pāti catur-jjaladhi-mēkhalārā || [2 *]
4. Yasya gāmbhīrya-lāvanya-vahu-ratna-tayā=nayā [1 *] Na samah kṣāra-kāluṣyam¹ vyālōpaya ×
5. tay=ōdadhi[h*] || [3 *] Tasya pāda-nakṣa-jyōtsnā-vibhūṣita-śirō-maṇau [1 *] Śrīmān-mahāprati(tī)-
6. hārē Śubhakīrttau vicakṣaṇēḥ² || [4 *] Daṇḍabhuktim=imām pāti pitṛvat=pāpa-varjitē [1 *]
7. Dharma-śāstr-ānurodhēna nyāy-ānyāyam vicētari || [5 *] Asyām Tāvira-karaṇam vipra-pra-
8. dhāna-saṅgataṁ [1 *] Bhaviṣyad-varṭtamān-ādhin vājñāpayati sūnṛtaṁ || [6 *] Kritv=āsmattō
9. yathā-nyāyam Śubhakīrttir=ēy(im)aṁ vu(bu)dhah [1 *] Catvārīṇ(m)sad=dadau drōṇān drōṇa-vāpaṁ ca
10. vāstunah || [7 *] Kēta(?)kapadrik-ōddēśē³ grāmē Kumbhārapadrakē [1 *] Bharadvāja-sagōttrā-
11. ya Mādhyandināya dhīmātē || [8 *] Dāmyasvāmīna=ētasmai pittrō[h*] puṇyābhivṛddhaye || [9 *]⁴
12. Tad=yō v=āsmat=kulē jūtō mōhād=anyō pi vā narah [1 *] Pāpaṁ prakurutē mōhān⁵=mahā-

Second side.

13. [pā*]takavān=bhavēt || [10 *]

TRANSLATION.

(L. 1)—Year 8, 12th day of *Pauṣa*; in this day, month and year.

(Ll. 1-3)—*Vv. 1-2, as in No. I.*

(L. 4)—Who (*Śaśāṅka*) possesses profundity, beauty and many gems like the ocean, but cannot be compared to the latter (*on account of its*) pollution by black salt (v. 3).⁶

(Ll. 5-7)—While this *Daṇḍabhukti* is being ruled like a father by the wise, illustrious *Mahā-Pratihāra Śubhakīrtti*, the jewel on whose head shines by the light of the nails of his (*Śaśāṅka's*) feet; who distinguishes right from wrong in conformity with the *Dharmaśāstras*; and who is free from sin (vv. 4-5);

(Ll. 7-8)—The administrative office of *Tāvira*, full of eminent *Brāhmaṇas*, situated within this (*Daṇḍabhukti*), communicates the (*following*) true and pleasant words to the present and future (*officers?*)⁷ (v. 6).

(Ll. 9-11)—Having purchased from us, according to rules, the learned *Śubhakīrtti* gave 40 *drōṇas* (*of land*) and one *drōṇavāpa* of homestead, in the village *Kumbhārapadraka* in the *dēśa Kēta(?)kapadrika* to the intelligent *Dāmyasvāmī*, of the *Bharadvāja gōtra* and *Mādhyandina (śākhā)* for increasing the religious merit of his parents (vv. 7-9).

(Here follows the imprecatory v. 10.)

¹ Dr. Sircar reads: 'kṣāra-kālē-py=avyālō[pāṅga*]tay=ōdadhi[h*]'. But *kāluṣyam* is quite clear. I do not find any *ā-kāra* on *p* and it is difficult to read the next letter as *ṅga*.

² 'h' should be omitted.

³ Read *dēśe*.

⁴ The first half of the verse is wanting.

⁵ Read *lobhān* on the analogy of Pl. I for *mōhād* is already used in the first half of the verse.

⁶ The full meaning of the verse cannot be grasped on account of the uncertainty of reading at the end of l. 4. The last part of the translation is, therefore, only conjectural.

⁷ The word *adhī* seems to have been used as an abbreviation for '*adhikaraṇika*'.

The 'City of Bengala' in early Reports.

By A. CORTESÃO.

(Communicated by K. Nag.)

In the rather lengthy chapter dealing with Bengal in the *Suma Oriental* of Tomé Pires, written in Malacca and Cochin in 1512-1515,¹ there is the following passage: '*Ports of Bengala*—The principal port is that of the City of Bengala (*Cidade de Bengalla*), whence the kingdom derives its name. It takes two days to go from the mouth of the river up to the city, and they say that at the lowest tide there are three fathoms. The city must have forty thousand hearths. The king has his residence in this city. They are all palm-leaf huts, but the king's house is of adobe and well built. This river is the Ganges—the Bengalees say that it comes from heaven. The other port is Sātgaon (*Sadegam*) over against Orissa. It has a good port; it has a good entrance. It is a good city and rich, where there are many merchants. It must have ten thousand hearths. These are the chief trading cities of Bengala. There are others inland, but they are strongly fortified garrison towns, of no [commercial] importance, and there is constant war in the interior'.

Varthema in 1510 mentioned the great City of *Banghella*, and Barbosa, writing a little later than Pires, also mentions the great City of *Bengala*.

In his edition of Varthema's *Itinerario* (Hakluyt Society, 1863), G. Badger had already asserted in a note to the text that 'Gour was undoubtedly the capital of Bengal at this period, but it appears that the name of the province was very commonly applied to the city, more especially by foreigners' (p. 210). Later, however, when writing the Introduction, he tried to rectify his 'erroneous identification of Varthema's *Banghella* with the capital of *Gour*' and said that he was 'inclined to infer that *Bengala* occupied a position between the Huttia and Sundeep islands, situated at the present mouth of the Brahmaputra'. He was led to this opinion by James Rennell's odd supposition, expressed in 1793, 'that the site of the city named *Bangella*, described as being near the eastern mouth of the Ganges, has been carried away by the river'. A few years later, H. Beveidge said that after he had seen the first volume of Ramusio's *Collection of Travels* he was 'almost convinced that the lost city of Bengala is neither more nor less than the famous city of Gour'.² In Ramusio's translations he read Barbosa's and Pires' references³ to Bengal, and to the king as being a Mohammedan, which confirmed his opinion, because Gaur was the only great Mohammedan city in Bengal. Pires indeed says in the *Suma* that the King of Bengala 'is a very faithful Mohammedan. The kings of this kingdom turned Mohammedan three hundred years ago'. This is remarkably accurate, as the Mohammedan conquest of Gaur dates from c. 1198.

The identification of the 'City of Bengala' has been the subject of a learned controversy in which many scholars have joined. A comprehensive survey of the problem is given by M. Longworth Dames in a long note in Vol. II of his edition of

¹ The *Suma Oriental* contains the first and most complete description of the East, from the Red Sea to China and Japan, written in the first half of the sixteenth century, by a man of some learning and as a result of his personal observation. The MS. of the *Suma Oriental* is extant in the Bibliothèque de la Chambre des Députés, Paris, where I discovered it in 1937. I have translated and prepared it for publication, and the Hakluyt Society is now printing the translation, with the original Portuguese text, an Introduction and notes, in two volumes.

² *The District of Bākarganj*, pp. xiii-xvi, London, 1876.

³ Giovanni Battista Ramusio knew some part of the *Suma Oriental* and published it under the title *Sommario di tutti li regni, cotta, and populi orientali, con li traffichi and mercantie, che ivi si tovano, cominciando dal mar Rosso fino alli populi della China. Tradotto della lingua Portuguese nella Italiana*, as being from an anonymous author, in his *Primo Volume della Navigazioni et Viaggi*, ff. 310 seqs. Venice, 1550.

The Book of Duarte Barbosa (Hakluyt Society, 1921). Opinions are divided between Gaur, Chittagong, Satgaon, and even Sonargaon, Sripur and Dianga. Even as recently as 1928, Sir Richard Carnar in his edition of Varthema's book identified the 'City of Banghella' with Satgaon, and the latest edition of the *Encyclopaedia Britannica* records that Chittagong 'has been generally identified with the City of Bengala mentioned by Portuguese and other writers'. Tomé Pires' references, together with the closer study of other Portuguese sources, from sixteenth century chronicles and maps, may help to throw new light on the matter.

Varthema states that 'the city of Banghella was one of the best that I had hitherto seen'. This applies much better to the wonderful city of Gaur, then in all its splendour, than to Chittagong or Satgaon, mainly commercial centres, important though they may have been. Barbosa writes: 'There is to the north (of the Gulf of Bengal) a right great city of the Moors, which they call Bengala . . . On issuing forth from this city of Bengala and going further on there are many other towns likewise inhabited by Moors and Heathen both up country and on the coast, subject to this King.' Then follows the description of Burma, which begins: 'Going past the Kingdom of Bengala and following the coast towards the south there is another Heathen Kingdom called that of Berma.' As Chittagong, then heathen, lies just on the north-east end of the Bay of Bengal, and as there is no important town between it and the Burmese frontier to the south, it could hardly be the 'City of Bengala', the 'right great city of the Moors' which Barbosa places 'to the north'. On the other hand Pires says that 'it takes two days to go from the mouth of the river up to the city', which eliminates the possibility that he is referring to Chittagong, lying as it does to the south-east of the mouth of the river. And that it could not be Satgaon is shown by the fact that he mentions Satgaon or *Sadegam*, with ten thousand hearths, as a port or city distinct from the 'City of Bengala', with forty thousand hearths. Perhaps this very important point escaped the notice of Beveridge and others who followed him, because they could not know of Pires' MS., and Ramusio's translation has '*Asedegā* verso il regno di Orixā' where the Portuguese text has '*Sadegam* contra Orixā'. This is the more curious—mainly on the part of those who identified the 'City of Bengala' with Satgaon—because Badger had already noticed that the *Asedegā* in Ramusio's translation corresponded to Satgaon (p. cxv). Though the Portuguese later on wrote *Sategam* and other similar forms, Pires followed the Arabs (the probable source of his information), for in Ibn Batuta the city is called *Sadkawan* (Lee's translation, p. 194) and in the *Mohit* (Tomaschek's translation, p. 78) it is *Sadigam*.

Varthema, who never was in Bengal (it has been shown that he lies whenever he asserts that he had been beyond southern India), as well as Barbosa and Pires, wrote from hearsay. They simply recorded the information they gathered from local travellers in India, and in Pires' case also in Malacca. It was only natural that the 'great City of Bengala' mentioned to them should be the deservedly famous Gaur, and that they should have made mistakes, mixing up some of the things they heard. For instance, when Barbosa says that it is 'a very excellent sea-heaven', though it must be remembered that the western side of Gaur was then washed by the Ganges and was probably accessible to sea-going ships; or when Pires states that 'it takes two days to go from the mouth of the river up to the city', which was actually more than 200 miles up the river, and that the city of such wonderful buildings was 'all palm-leaf huts'.

The Rev. H. Hosten, S.J., who has on several occasions dealt with this question, wrote: 'Unfortunately, so little attention has been paid to the accounts of Bengal written by the earliest European travellers in Bengal, especially the Portuguese, that the passages in which the name of Bengala is found, as applied to a town, have never been properly collated. The general impression produced on me by my reading is that the term has been used for a variety of places: Sonārgaon, Sātgaon, Chittagong, and even such places as Hūgli and Chandernagar; that, in fact, it applied to the chief port at the time. It is easy to understand why "Bengala" should have been placed at Chittagong by Portuguese cartographers. The first Portuguese settlement was at Chittagong from about 1534, and, till the time when they founded

Hügli (1578), "to go to Bengal" must have meant for the Portuguese "to go to Chittagong". *Bengala* once located at Chittagong by the Portuguese geographers, the mistake continued to be reproduced in the old maps even as late as 1743.¹ To a certain extent this may sum up the situation; but, in fact, the 'City of Bengala' referred to by Varthema, Pires and Barbosa, was Gaur, and the 'City of Bengala' mentioned in later Portuguese chronicles and maps was Chittagong.

The chronicler Castanheda describes how in 1518 a Portuguese fleet of four ships went to the 'cidade de Chetigã cidade de Bãgala'. In the same chapter he says that there are many and very beautiful cities situated along the river Ganges, 'mainly one called *Gouro*, which lies up the river a hundred leagues from the sea . . . and here the king of Bengala has his court and abode in a sumptuous palace . . . On the sea-coast this kingdom has no more than two ports in two cities, one called *Chetigão*, twenty leagues from one of the mouths of the Ganges . . . the other port is called *Sategão* in the other mouth of the Ganges, eighty leagues by sea from *Chetigão*, but it is not so important'.² This remarkably accurate description is quite clear: for Castanheda the 'City of Bengala' was Chittagong, not Gaur. João de Barros writes, 'The first mouth (of the Ganges), which is westerly, is called *Satigam*, on account of a city of this name situated along its current, where our people carry on their businesses and trade; and the other one, easterly, discharges very near another (city) called *Chatigam*, more famous because all the merchandise that enters or leaves this kingdom generally comes together there.'³ But later on (IV, ix, 3) he refers to events that happened in 1529 in 'Chittagong, which is the City of Bengala'. Dâmião de Góis refers to the event described by Castanheda as taking place in 1518, mentioning also 'Chittagong, City of Bengala'.⁴ All three chroniclers agree.

No less interesting is a brief survey of the sixteenth century Portuguese maps on which Bengal is shown. The earliest Portuguese map to represent Bengal is an anonymous one (the so-called Cantino, from the name of an Italian who smuggled it out of Portugal), made in Lisbon in 1502. It shows *Satgaon* (*Catigum*) on a river in the western corner of the Bay of Bengal, and Chittagong (*Carigam*) on another river in the eastern corner. This remarkable representation shows how accurate was the information gathered in Lisbon, perhaps from some Arabian map or maps brought back by the first two expeditions of Gama and Cabral to India. The next maps are those of Francisco Rodrigues of 1513 (Paris), Pedro Reinel of c. 1517 (Munich) and of c. 1518 (British Museum), Jorge Reinel of c. 1519 (Munich), and Diogo Ribeiro of 1527 (Weimar) and 1529 (Rome); all of them show the head of the great bay bearing the name 'The River of Bengala', 'Kingdom of Bengala', or simply 'Bengala'. Then comes the anonymous Portuguese map of c. 1540 (Wolfenbüttel), which shows *sategam*, near the western corner, and *chatigam* on the eastern corner, besides other names between the two.

Real improvement begins with Lopo Homem's large world map of 1554 (Florence). On the western side of the Ganges Delta is written *omde fazem a veniaga* (where they trade), and *tatigam* (a mistranscription of *catigam*) a little to the north-east. Further north-eastwards is *ogouzo*, i.e. *o gouro* or Gaur, this being its first appearance on a map. Finally, on the right hand side of some river which may

¹ *The Twelve Bhuyas or Landlords of Bengal*, in *J.A.S.B.*, IX, 444, 1913. Possibly misled by a remark in Ovington's *A Voyage to Suratt in the Year 1689*, and assuming that 'Dianga was the first Portuguese settlement on the Gulf of Bengal', Hosten believes that 'the City of Bengala, after the Portuguese had settled in Arakan, was Dianga', on the left bank of the Karnaphuli, not far from Chittagong which lies on the right bank. *Bengal Past and Present*, XIII, 262, 1916. J. J. A. Campos, who thinks that 'it may be safely asserted that all evidence points to the conclusion that Chittagong was the real City of Bengala, spoken of by the early writers', has shown already that Dianga, where the Portuguese did not establish themselves until late in the sixteenth century, is out of the question. *History of the Portuguese in Bengal*, pp. 75-8.

² *História de Descobrimento and Conquista da Índia pelos Portugueses*, IV, xxxvii. Lisbon, 1554. 1 Portuguese league = 3.2 miles.

³ *Ásia*, Década I, ix, 1. Lisbon, 1552. Barros died in 1570 and Década IV was not published till 1615.

⁴ *Chronica do Felicissimo Rei Dom Emanuel*, IV, xxvii. Lisbon, 1567.

correspond to the eastern branch of the Ganges Delta, is *cidade de bengala*, and under this *talingam* (a mistranscription for *catingam*, i.e. Chittagong). The representations of the Ganges Delta on the maps and on all the other maps I am about to refer to, follow more or less the same prototype and have several other names besides those I mention. In Diogo Homem's atlas of 1558 (British Museum) we find, in the same order: *onde fazê a ueniagua, xatigam, ogouxo, cidade de bengalu* and, under this, *xategam*; in Lázaro Luiz's atlas of 1563 (Lisbon): *aonde fazem a ueniaga, xatigaõ, ogouro* and *Cidade de bégala xatigaom*; in Diogo Homem's atlas of 1568 (Dresden): *onde se faz a ueniaga, xatigam, ogaoxo, Bengala* and *xategã*; in Vaz Dourado's atlas of 1568 (Lisbon): *Sategam, ogouro* and *chatigam*; ¹ in Dourado's atlas of 1571 (Lisbon): *Sategaõ onde fazê a ueniaga, ogouro* and *chatigam*; in Dourado's atlas of c. 1573 (British Museum): *Sategaõ o da ueniaga, ogouro* and *chatigam*; in Dourado's atlas of 1580 (Munich): *Sategam o gouro* and *chatigam*; in Bartolomeu Lasso's atlas of 1590 (Rotterdam): *donde fazem a ueniaga, Satigã, ogouro* and *cidade de bégala xatigam*. Other contemporary maps which represent the Ganges Delta with some approach to reality follow more or less closely Portuguese originals.

Besides the references of Castanheda, Barros and Góis, the maps of the two Homens, Luiz and Lasso show that after the first half of the sixteenth century, and perhaps even earlier, Chittagong was the 'City of Bengala' of the Portuguese. This may be not unconnected with the fact that Chittagong was the seaport serving Gaur—the 'great City of Bengala' of Varthema, Pires and Barbosa—which began to decline about the middle of the sixteenth century, and practically ceased to exist as a living town after 1575. No less interesting is the inscription 'where they trade' associated with Satgaon, beginning with the map of c. 1540 and becoming still more precise on Dourado's maps of 1571 and 1573—'Satgaon where they trade', and 'Satgaon, that of the trade', on the Hugli river represented as the western branch of the Ganges Delta.

Though the Portuguese had probably traded in Bengal from the early sixteenth century,² it was not till 1537-8 that they settled in Satgaon and Chittagong. Satgaon was then the chief commercial port of Bengal, though Antonio Nunes referred in 1554 to the Small Port (*Porto Pequeno*) and the Large Port (*Porto Grande*) of Bengala³ which, as we know from later references, correspond respectively to Satgaon and Chittagong. Writing in mid sixteenth century, Garcia d'Orta mentions 'Satgaon (*Satiguam*) which is a very famous port in Benguala',⁴ and Fernão Mendes Pinto says

¹ Dourado was perhaps the only one of those cartographers who actually visited Bengal. In the *Livro de Marinharia* (a collection of sixteenth century Portuguese ruttors and nautical rules published by J. I. Brito Rebelo, Lisbon, 1903), there is a rutter of the 'Navigation from Cochin to Bengala, the port of *Chattigão*', and another called 'Course from Negapatam to the entrance of the port of *Sataguão*'. It is said there that 'Fernão [Vaz] Dourado had made that voyage when he went (apparently to Bengal) with Vasco da Cunha' (p. 234), referring perhaps to a voyage made in 1543-4 to the coast of Bengal and *Porto Pequeno* mentioned by Gaspar Correia, *Lendas da Índia*, IV, 297 and 398. It is possible that Dourado, one of the most consummate Portuguese cartographers (born in India, where he lived the greater part of his life: see A. Cortesão, *Cartografia*, II, 1-104), drew some map which was sent to Lisbon and served as prototype for all the others mentioned. This may explain to some extent the greater accuracy of the names on the maps after that date.

² There are in early Portuguese documents many references to ships (*naus*) going to Bengal; for example, in at least three letters written by Afonso de Albuquerque to the King of Portugal from India, on the 1st April, 1512 (*Alguns Documentos da Torre do Tombo*, p. 251), 8th November, 1512 (*Cartas de Afonso de Albuquerque* I, 99), and 30th November, 1513 (*Ibidem*, I, 155). In the third, Albuquerque says that the Portuguese factor of Cochin sent ships to Bengal. In another letter of the 1st December, 1513, he says that 'Bengala asks for all sorts of our merchandise and needs them' (*Alguns Documentos*, p. 300). In a letter of 6th January, 1514, to the King of Portugal (*Cartas*, III, 94) and another of the same date to Afonso de Albuquerque (*Ibidem*, III, 221), Rui de Brito, Captain of Malacca, refers to a junk of the Bendara that was sent to Bengal with 'news of our truth and justice'. Although it does not seem that any of these ships were Portuguese, it is very possible that in some of them one or more Portuguese travelled, as happened very often in those times. But as far as we know positively, it was in 1516-7 that a Portuguese, João Coelho, visited Bengal for the first time, according to António Galvão's information. *Tratado*, p. 129 (Lisbon, 1563). Hakluyt Society edition, 1862. On early Portuguese settlements in Bengal, see Campos' remarkable book mentioned above.

³ *Lyro dos Pesos*, p. 37 (written in 1554). Lisbon, 1868.

⁴ *Coloquios dos Simples e Drogas*, Col. L. Goa, 1563.

that in 1546 he visited 'the port of Chittagong (*Chatigão*) in the kingdom of Bengala, where at that time there were many Portuguese'.¹ None of these references warrants the supposition that the Portuguese have ever meant Satgaon to be the 'City of Bengala'.

In 1579-80 the Portuguese founded Hugli, a little to the south-east of Satgaon, and established themselves there, after which the decline of Satgaon began. They then called Hugli *Porto Pequeno*. Father Fernão Guerreiro, writing in 1603-4, refers to *Goli*, *porto pequeno of Bengala*, speaking of the Portuguese who live in 'that old *bandell* or town (*povoação*), where there are more than 5,000 souls' and of 'our town alongside the river'. Further on he refers to the place also as *o Goli*.² The Portuguese said *O Goli*, just as they say *O Porto*. From the latter resulted *Oporto*; so the former gave Hugli. In an anonymous Portuguese atlas of c. 1615-23 (the so-called 'de la Duchesse de Berry', Paris), there is near Satgaon (*Satigão*) a *porto novo onde fazê a fazenda* (new port where they trade), which corresponds clearly to Hugli.

In conclusion, the 'City of Bengala' of the early sixteenth century writers was Gaur. There are many reasons for this identification, but the decisive argument in its favour is the fact that Tomé Pires mentioned the 'City of Bengala' and Satgaon as different places, and says that the former, a great city of 40,000 hearths, lay two days' journey up the river, which excludes Chittagong. Later on, however, when the Portuguese settled in Bengal, the designation 'City of Bengala' corresponded to Chittagong, as is shown by several mid sixteenth century Portuguese chroniclers and cartographers.

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Astronomical Time-Indications in Kālidāsa.

By P. C. SENGUPTA.

As to the date of Kālidāsa, the greatest of our Sanskrit poets, most divergent views have been held by different researchers. According to Maxmuller, Fergusson and H. P. Sāstri, Kālidāsa lived about the middle of the sixth century A.D. On the other hand, Macdonell, Vincent Smith and A. B. Keith have held that the poet flourished about the time of the Gupta emperor Chandragupta II, the first Indian monarch who, on epigraphic evidence, is known to have assumed the title of Vikramāditya (ca. 380-415 A.D.). This is of course on the assumption that Kālidāsa adorned the court of a king named Vikramāditya of Ujjayinī, a tradition which appears to be of very doubtful value. Then again Prof. S. Ray,³ Sten Konow, Chatterjee and other Sanskritists of the old school have identified the now known Vikrama Samvat, with the era alleged to have been started by Vikramāditya of Ujjayinī, and have tried to assign to the poet the first century B.C. But epigraphic and other evidences are, so far as I am aware, against this identification as the original name of this Samvat era was 'Mālavābda' or even Kṛta era. We do not yet know when the original name of the era was changed into the Samvat era.

¹ *Peregrinacão*, CLXXI. Lisbon, 1614.

² *Relação Anual*, III, iii, 3. Lisbon, 1607.

³ Prof. S. Ray's paper, 'Age of Kālidāsa', *J.R.A.S. Bengal*, 1908.

As no definite epigraphic evidence about the date of Kālidāsa is forthcoming, such differences of opinion are quite natural, and any attempt to throw fresh light on the problem from a new point of view will probably be welcomed by scholars.

In this paper, I have tried to show that the great poet was thoroughly conversant with the Hindu *Siddhāntic* (Scientific) astronomical literature, such references being found scattered throughout his poetical and dramatic works. These references have not been, as I shall show, correctly interpreted by his many commentators including Mallinātha. The reason is obvious. These commentators were primarily rhetoricians and not experts in astronomy, hence they failed to get at the proper meaning of the passages and thus by their failure in this respect, have only 'darkened counsel by their words' in their commentaries. We take these references one by one. I shall try to interpret them correctly and ascertain their chronological significance.

(a) The first reference is—

Nakṣatra-tārāgraha-saṅkulā-pi jyotiṣmatī candramasaiva rātriḥ

—Raghu, VI, 22.

Here the word 'tārāgraha' is a Hindu astronomical term not recognized by Mallinātha. It means 'star-like planets', viz. Mercury, Venus, Mars, Jupiter and Saturn in contradistinction to the Sun and the Moon which possess discs; the Hindu scientific astronomers throughout maintain this classification (cf. *Pañcasiddhāntikā*, XVIII, 61; the *Aryabhaṭīya*, *Gola*, 48; Modern *Sūrya Siddhānta*, VII, 1, etc.). Here Mallinātha splits up the compound word as 'nakṣatra' + 'tārā' + 'graha'. This sort of interpretation is apparently against the meaning of the poet.

(b) That Kālidāsa was a keen observer of the first visibility of crescent is evidenced by:—

(i) Netraih papus tṛptimanāpnuvadbhir
Navodayamnāthamivaṣadhīnām

—Raghu, II, 73.

(ii) Nidarśayāmāsa viśeṣadrśyam
indum navotthānamivendumatyai

—Raghu, VI, 31.

In these instances we have the expressions which are equivalent to 'the newly risen lord of the ṣaḍhis' and 'to newly risen moon'.

(c) We have further in Kālidāsa:—

Tisrastri-lokīprathitena sārddhamajena narge vasatūruṣitvā
Tasmādapāvartata Kuṇḍineśah parvātyaye somaivoṣṇarasmeh'

—Raghu, VII, 33.

Here the poet says that in Aja's return journey to the city of Ayodhyā, the prince of Vidarbha (his brother-in-law) unwilling to part company of him as it were, accompanied Aja for *three nights*, just as the moon, as if unwilling to part company of the sun at the conjunction remains invisible for the maximum period of three nights and then separates from him. This interpretation makes the figure a *pūrṇopamā* or a complete similitude. Hence Kālidāsa was also an observer of the fact that the moon's maximum period of invisibility lasts for three nights. Mallinātha here fails to interpret the simile in Kālidāsa.

(d) Again we have the line:—

'Eṣa cārumukhi, yogatārāyā yujyate taralavimbayā Śaśi'

—Kumāra, VIII, 73.

'This Moon, O lovely one, is getting conjoined with the *liquid-bodied*, "junction-star" of this night.'

Here we have the two words 'Yogatārā' and 'taralavimbayā', the first one means any one of the several 'stars' with which the moon gets conjoined in her 'sailing' through the sky in the course of a sidereal month. Mallinātha makes a muddle of the whole thing when he says that the moon is always accompanied by a particular star in all nights (*pratyaḥamīyayā yujyate sā yogatārā*). Again the word

'tarala-vimbayā' means liquid-bodied, and not as Mallinātha expounds it. A verse of the *Sūrya Siddhānta*, as quoted by Bhattotpala (966 A.D.) in the commentary on the *Brhatsamhitā* of Varāhamihira, runs thus:—

Tejasām golakah sūryo grahārksānyambugolakāh
Prabhāvanto hi drśyante sūryaraśmividipitāh

—Brhatsamhitā, IV.

(first cited by Dikṣita, in his work *Bhāratiya Jyotiḥśāstra*, p. 179).

'The sun is a sphere of energy, the planets and stars are spheres of water, they are seen shining by being illumined by the rays of the sun.'

This evidence shows that the poet had studied the *Sūrya Siddhānta* as known to Bhattotpala, and used the word 'tarala-vimbayā' in the strict *Siddhāntic* sense.

(e) Another very important astronomical passage in Kālidāsa is—

Agastyacinṇādayanāt samīpam diguttarā bhāsvati sannivṛtte
Ānandaśītāmivavāspavṛṣṭiṁ himaśrutīm haimavatīm sasarya

—Raghu, XVI, 44.

or 'when the sun neared the solstice (summer solstice) which was the place of *Canopus*, North caused a flow of ice from the Himalayas, which was like a delightfully cold shower of rain'.

Here also Mallinātha owing to ignorance of *Siddhāntic* astronomy fails to interpret the phrase. 'Agastya-cinṇāyana' which cannot but mean the ecliptic place of *Canopus*. His meaning of the phrase is 'the southern solstice' (the winter solstice). The poet in the very preceding stanza speaks of the advent of summer at the beginning of which the sun had already left the winter solstice *four months* before, and was only 60° distant from the summer solstice. The phrase in question undoubtedly means the summer solstice. As to the *Agastya's* (*Canopus*) 'polar' longitude and latitude the astronomical *siddhāntas* say:—

In Modern *Sūrya Siddhānta* (VIII, 10) we have 'Agastyo Mithunāntagah'.

In *Pañcasiddhāntikā* (XIV, 10) we have 'Karkatādyāt'.

From the above and other works we learn of *Canopus*' place as:—

	Polar longitude.	Polar latitude.
Modern <i>Sūrya Siddhānta</i>	.. 90°	S 80°
<i>Pañcasiddhāntikā</i> (550 A.D.)	.. 96°	S 75° 20'
Brahmagupta (628 A.D.)	.. 87°	S 77°
Lalla (748 A.D.)	.. 87°	S 88°

From the above 'polar' longitudes of *Canopus* it appears that both Varāha and Kālidāsa belonged to the same school of *Siddhāntic* teaching. The date of the earliest form of the Modern *Sūrya Siddhānta* is most uncertain. It may even be about 560 A.D. as estimated by Burgess.¹

(f) The poet is almost enamoured of the event of the sun's reaching the summer solstice when the tropical month of *Nabhas*, the first of the rainy season began. The poet says in *Raghu*, XVIII, 6.

Nabhaścaraigṛtajasāh sa lebhe
nabhastala śyāmatanum tanūjam;
Khyātāṁ nabhaśabdamayena nāmnā
kāntāṁ nabhomāsamiva prajānām.

'The king (Nala) whose fame was sung by the denizens of the sky, got a son of the same colour as the sky who became known by the name of *Nabhas* and was to his people, as pleasing as the month of *Nabhas*, the first of the rainy season.

(g) Kālidāsa has again in *Raghu*, XV, 36.

Tau vidhanagarinivāsināṁ gām gatāviva divah punarvasū
Manyate-sma pivatāṁ vilocanaiḥ pakṣapātamapi vañcanāṁ manah.'

¹ If it was recast first into the modern form by Lātadeva (427 Śaka year or 505 A.D.) as recorded by Alberuni (*India*, Vol. I, XIV, p. 1) the date may go up to, say, about 510 A.D. and not earlier.

'The princes, Rāma and Lakṣmaṇa, as they stood before the people of the city of Videha, appeared as charming as the two stars, *Castor* and *Pollux*, of the *nakṣatra Puṇarvasu*. As they drank with their eyes the beautiful forms of the princes, their mind took it a disappointment that their tired eyelids fell preventing a continuous vision.'

To the poet why the stars *Castor* and *Pollux* were so charming, was that the sun reached the summer solstice, at a place near to them, and the bursting of the monsoons took place. In the northerly course, the star *Castor's* place is first reached by the sun. We shall not therefore be very wrong to assume that the poet indicates that the summer solstice of his time lay very near to the place of this star. The time when the summer solstitial colure passed through it was 546 A.D. It remains yet to be examined how far it indicates the date of the poet. Enough has been shown to establish, I trust, that Kālidāsa was well trained in the *Siddhāntic* astronomy of his time, was himself a keen observer of the heavens and specially of the moon's motion amongst the ecliptic stars. We now proceed to consider the other time-references in Kālidāsa's works.

Other Time-References in Kālidāsa.

The first of these time-indications is derived from the *Meghadūta*. The stanzas in Part I, 1-4, say that the exiled Yakṣa addressed the cloud messenger on the first or last day of *Āṣāḍha*; 'prathama' and 'prasama' are the two variants of the text. In the edition of the *Meghadūta* by Hultzsch, the commentator Vallabhadeva accepts the reading *praśamadvase* and discards the other, and Mallinātha on the other hand accepts the reading as *prathamadvase* and rejects the other. We have to settle which is the correct reading. We learn from Part II, verse 49, that the Yakṣa's period of exile would end when Viṣṇu would arise from his bed of the serpent Śeṣa ('Śāpānto me blejagaśayanādutthite śārngapānaṁ, śeṣānmāsān gamaya caturō, etc.'). The date for this last event being the day of the 11th tithi of lunar *Kārtika*, four lunations before it was the day of the 11th tithi of lunar *Āṣāḍha*. Hence the day on which the Yakṣa is said to have addressed the cloud messenger was that of the 11th tithi of lunar *Āṣāḍha*. As this day can never be the first or the last day of the lunar *Āṣāḍha*, and as this day can never fall on the first day of solar *Āṣāḍha*, the real reading of the text is '*Praśamadvase*' and not '*Prathamadvase*'; the month being the solar and never the lunar, *Āṣāḍha*. Thus the day on which the Yakṣa is made to address the cloud messenger was:—

- (1) The day of the 11th tithi of lunar *Āṣāḍha*.
- (2) The last day of solar *Āṣāḍha*.
- (3) The day of the summer solstice, as this was the day for the bursting of the summer monsoons marked by the first appearance of clouds. Here Kālidāsa says 'that a huge mass of the first rain-clouds hanging from the side of the hill, looking like a fully developed elephant, burying its tusks on the hill side'. 'meghamāśliṣṭa-sānum vaprakrīḍāpariṇāta-gaja-prekṣaṇīyaṁ dadarśa', as the poet has it. The next day itself was the first day of *Nabhas* the first month of the rainy season. The poet says that this month was imminent or 'pratyāsanne Nabhasi' when the Yakṣa addressed the cloud. With the learned Sanskrit authors, the summer solstice day was the true day for the bursting of the monsoons. On this point cf. the *Rāmāyaṇa*, II, Ch. 63, St. 14-16.

The poet here in the *Meghadūta* has recorded a notable astronomical event of his time. We have already seen before that the poet has indicated by the position of the summer solstitial colure as almost passing through the star *Castor*, that this time was about 546 A.D. Now examining the period from 541 to 571 A.D., we find that the day on which the three conditions tabled above were satisfied was:—

The 20th June, 541 A.D., on which at G.M. Noon or the Ujjayinī mean time,

5-4 p.m.		Khaṇḍakhādya.	Moderns.
True Moon	=	226° 1'	227° 2'
True Sun	=	89° 38'	90° 0'

Note.—The *Khaṇḍakhādya* is an astronomical compendium by Brahmagupta, dated 665 A.D., in which he sets forth the *ārdharātri* system of astronomy as taught by Āryabhaṭa I. Varāha, in his *Sūryasiddhānta*, has borrowed wholesale from Āryabhaṭa I, but without mentioning in any way the source he is a borrower from.¹ There are indeed only two systems of the Hindu *Siddhāntic* astronomy, the *ārdharātri* and the *audayika*. To the former class belongs also the Modern *Sūrya Siddhānta*, to the other class fall the *Āryabhaṭīya*, the *Brāhmasphuṭasiddhānta* of Brahmagupta (628 A.D.), the *Śiṣyadhīrvṛddhida* of Lalla (748 A.D.), the *Siddhānta-śekhara* of Śrīpati and the *Siddhāntaśiromani* of Bhāskara II.

Here according to the *Khaṇḍakhādya*, Moon—Sun = $136^{\circ} 23'$; the eleventh *tithi* was over about nine hours before, i.e. at about 8 a.m. in the morning, and the first day of *Nabhas* was the next day, and that this date of June 20, 541 A.D., was the true last day of the solar *Aṣāḍha*. The sun's longitude according to the modern constants shows the day as the true day of the summer solstice of the year. This reference thus indicates the time of Kālidāsa as about 541 A.D., which is not very different from 546 A.D. obtained before.

The second of these time-indications is derived from our poet's drama, *Abhijñānaśakuntala*, VII, 91. Here Kālidāsa employs an astronomical simile to describe the final union of Duṣyanta with Śakuntalā. The prince thus speaks to his consort:—

‘Priye, Smṛtibhinnamohatamaso

Diṣṭyā pramukhe sthitāsi sumukhi

Uparāgāntesaśinā

Samupagatā Rohiṇī yogam.

‘It is by a piece of good luck, my lovely darling, that you stand before me whose gloom of delusion has been broken by a return of memory. This has been, as it were, the star *Rohiṇī* has got conjoined with Moon at the end of a total eclipse.’

So far as we can see our poet again uses another specially noticeable astronomical event of his time for a simile. A total eclipse of the moon happened according to Oppolzer's *Canon der Finsternisse* on November 8, 542 A.D., with the middle of the eclipse at 17 hours 5 minutes of G.M.T. or the Ujjayinī mean time 22 hours 9 minutes: The half durations for the whole eclipse and the totality were 112 minutes and 51 minutes respectively. As to the magnitude and the half durations, I trust, Oppolzer's book is correct, although not based on the most up-to-date astronomical constants. The authorities for his longitudes were Leverrier and Hansen, thus the beginnings and ends are not very correct as set forth below:—

On November 8, 542 A.D., at 17 hours 5 minutes, G.M.T., we have—

	Newcomb and Brown.		Leverrier and Hansen.	
Apparent Sun	..	$228^{\circ} 28' 49''$	$228^{\circ} 28' 46''$	
Apparent Moon ²	..	$48^{\circ} 16' 41''$	$48^{\circ} 26' 3''$	

Thus according to the most up-to-date authorities, Moon—Sun = $12' 18''$, while according to Oppolzer's authorities the same = $2' 43''$. The difference of $9' 25''$ would be gained by the moon in 19 minutes more. Consequently the beginnings, the middle and the ends have to be shifted forward by 19 minutes. The eclipse thus began most conveniently at 8-36 p.m. and ended at 0 hour 20 minutes a.m. of the Ujjayinī mean time on November 9, at a very favourable time for the observation of the conjunction of the moon with the star *Rohiṇī* (*Aldebaran*), and at this instant—

Apparent Moon	..	..	$49^{\circ} 31' 10''$
Longitude of <i>Rohiṇī</i> (<i>Aldebaran</i>)	..	..	$49^{\circ} 30' 11''$
Latitude of <i>Rohiṇī</i> (<i>Aldebaran</i>)	..	..	$-5^{\circ} 28' 17''$

¹ P. C. Sengupta, Translation of the *Khaṇḍakhādya*, the introduction, Calcutta University Press, 1934 A.D.

² Corrected by 12 principal equations.

The moon at the end of the eclipse had almost complete equality in longitude with the star *Aldebaran* or *Rohinī*, as could be estimated by producing the line of the moon's cusps formed at the eclipse some time before its end.

The date of this peculiar lunar eclipse, viz. 8-9 Nov., 542 A.D., confirms the dates 546 A.D. and 541 A.D. as obtained before. The period in which Kālidāsa in all probability observed these three astronomical events, which he has recorded in his work in his own way, runs from 541 to 546 A.D. The events thus tend to place Kālidāsa in the middle of the sixth century A.D.

In the previous reference (from the *Meghadūta*), we have shown before, that in the phrase '*Āśāḍhasya praśamadvase*', the word '*Āśāḍha*' is to be taken in the sense of the 'solar' and not of the 'lunar' month of *Āśāḍha*.

This interpretation makes the date of the poet later than the date of the starting of the Hindu *Siddhāntic* astronomy. I have not as yet come across any mention of solar months in Indian epigraphy. That the Hindu *siddhāntas* date from that epoch at which the planetary mean places (or even apparent places) are almost all equal to the tropical mean longitudes as calculated from the most modern astronomical constants, is the sole test by which it can be ascertained. Āryabhaṭa I indeed makes his epoch 3,600 years after the Kali epoch of 3102 B.C., Feb. 17, 24 hours or February 18, 6 hours of Ujjayinī mean time. The date and hour we arrive at is:—

March 21, 499 A.D., Ujjayinī mean midday. The mean longitudes are shown in the following table.

Planet.	Ārdha- rātrika system.	Audayika system.	Mod. S. Siddhānta.	Mean Trop. Longitudes. Moderns.	Error in Ārdha- rātrika.	Error in Audayika.
(1)	(2)	(3)	(4) ¹	(5)	(6)	(7)
Sun ..	0° 0' 0"	0° 0' 0"	0° 0' 0"	359° 42' 5"	+17' 55"	+17' 55"
Moon ..	280° 48' 0"	280° 48' 0"	280° 48' 0"	280° 24' 52"	+23' 8"	+23' 8"
L.A. Node	352° 12' 0"	352° 12' 0"	348° 20' 0"	352° 2' 26"	+9' 34"	9' 34"
L. Apogee	35° 42' 0"	35° 42' 0"	34° 56' 43"	35° 24' 38"	+17' 22"	+17' 22"
Mercury	180° 0' 0"	186° 0' 0"	198° 7' 48"	183° 9' 51"	-189' 51"	+170' 9"
Venus ..	356° 24' 0"	356° 24' 0"	352° 48' 0"	356° 7' 51"	+16' 9"	+16' 9"
Mars ..	7° 12' 0"	7° 12' 0"	9° 48' 0"	6° 52' 45"	+19' 15"	+19' 15"
Jupiter	186° 0' 0"	187° 12' 0"	186° 0' 3"	187° 10' 47"	-70' 47"	+1' 13"
Saturn ..	49° 12' 0"	49° 12' 0"	50° 24' 0"	48° 21' 13"	-50' 47"	+50' 47"

The mean 'planets' of the *ārdharātrika* system are the same as taught by Varāha in his so-called *Sūryasiddhānta*. The date of the Modern *Sūrya Siddhānta* as judged by a similar test is put at 1091 A.D. by Bentley, which cannot be set aside as unacceptable (Calcutta Univ. reprint of Burgess translation, page 24). The reader may on this point compare Dikṣita's work, the *Bhāratiya Jyotiḥśāstra*, page 200, 1st edn., and also my article, 'Hindu Astronomy' in the journal *Science and Culture* for June, 1944.

The planetary position as in cols. (2), (3) and (5) are in general agreement, excepting in that of Mercury, where the error is respectively -3° and $+3^\circ$ nearly in the above two systems. The next great difference of $+51'$ occurs in the mean place of Saturn; in almost all other cases the Hindu mean places (or more correctly Āryabhaṭa's) are almost the same as calculated from the most modern constants. Hence there should not be any doubt as to the date from which the *Siddhāntic* calculations were started, that date must be March 21, 499 A.D. The Hindu rule for calculating what is called *Ayanāṁśa*, or the distance of the 1st point of the Hindu sphere from the vernal equinox of date, also accepts this as the date when the two points were coincident. There is another date also, viz. 445 of Śaka era or 523 A.D., called the Bhaṭa year, from which also the *Ayanāṁśa* is calculated. Thus we conclude that as Kālidāsa means the solar month of *Āśāḍha* in the phrase '*Āśāḍhasya*

¹ The Modern *Sūrya Siddhānta* longitudes are for 12 hours 33.6 minutes of U.M. Time.

praśamadivase', his date cannot be earlier than 499 A.D., or even 523 A.D. It was from about these dates that the Hindu signs of the zodiac were formed and solar months for the different signs of the zodiac came to be calculated in the Hindu calendar, in the form of transits of the sun from one sign of the zodiac to the next.

As to the date of Kālidāsa, we have, as set forth above, the first time-indication in which he hints that the summer solstitial colure of his time passed almost straight through the star *Castor*, for which the date has been worked out as 546 A.D. Secondly, the astronomical event of the combination of the last day of solar *Āṣāḍha*, the day of the 11th *tithi* of lunar *Āṣāḍha* and the day of the summer solstice falling on the same day has given us the date 541 A.D., June 20. Thirdly, the date of the total lunar eclipse, which was most favourable for the observation of the moon being conjoined with the star *Rohiṇī* (*Aldebaran*) at its end, has led to the date Nov. 8-9, 542 A.D., so closely converging to the preceding dates. All these findings finally fix the date of the greatest of the Sanskrit poets at about the middle of the sixth century A.D. We have also shown that as the date of all the extant Hindu scientific *siddhāntas* cannot be earlier than 499 A.D., March 21, and that it may even be later than 523 A.D., the date of Kālidāsa cannot but be about 541-546 A.D. as he uses the phrase '*Āṣāḍhasya praśamadivase*' which cannot but mean the last date of the solar month of *Āṣāḍha*. Even by the learned ancients such an expression, indicating the use of a solar month, was not possible before the time of *Āryabhaṭa I*, so far as I have come to learn from my study of Hindu astronomy for more than three decades. Before 499 A.D. this science was in the *amorphous state*. The Jyotiṣa Vedāṅga calendar has a tradition that the five-yearly Vedic calendar was started from about 1400 B.C. but we have evidence to show that this calculation was never extended beyond five years. The late Mr. S. B. Dikṣita in his *Bhāratīya Jyotiḥśāstra*, page 125, has quoted a verse from the *Mahābhārata*, *Śānti*, Ch. 301, 46-47, in which we find that the calendar-makers or the wise men found 'omitted years, months, half lunations and even days' in trying to follow the five-yearly luni-solar cycle. It is a pity that nothing is on record to show when arose occasions for such adjustments being made and how these wise men failed to find the 19 years or the 141 years as more correct luni-solar cycles by these processes. In these calculations there was no use of the signs of the zodiac and of no other planets except

Date.	Ujjayini Mean Time hr.	Tropical longitude of the sun. Moderns.	The same referred to the M.V. Equinox of March 21, 499 A.D.	Khaṇḍa- khādyaḥ, ¹ True sun.	Khaṇḍa- khādyaḥ, True moon.	Cur- rent tithi.	Summer Solstice on
188 A.D., June 23.	6 a.m.	89° 50' 38"	3° 4° 9' 7"	3° 5° 12' 46"	....	..	The 6th of solar Śrāvaṇa.
302 A.D., June 22.	..	89° 49' 10"	3° 2° 27' 52"	3° 3° 33' 18"	....	..	The 4th of solar Śrāvaṇa.
416 A.D., June 21.	..	89° 44' 42"	3° 0° 53' 34"	3° 1° 26' 26"	....	..	The 2nd of solar Śrāvaṇa.
427 A.D., June 21.	..	89° 6' 41"	3° 0° 6' 24"	3° 0° 37' 19"	7° 11° 14' 32"	11th	The 2nd of solar Śrāvaṇa.
484 A.D., June 20.	24 hrs.	90° 2' 0"	3° 0° 14' 13"	3° 0° 37' 23"	7° 11° 43' 58"	11th	The last day of solar Āṣāḍha.

¹ We have followed the *Khaṇḍakhādyaḥ* of Brahmagupta in the calculations as no better or more reliable ancient works are known to us.

the sun and the moon. When Kālidāsa uses the solar month, we have an indication of the existence of the *crystalline state* of Hindu astronomy of the time of Āryabhaṭa I which dates from March 21, 499 A.D.

For finally settling this point, there should be forthcoming epigraphic evidence as to the use of the solar months by the learned Indians before the time of Āryabhaṭa I. So far as I have seen, I have not come across any earlier use of solar months in any epigraphic statements: the dates are invariably stated in terms of the lunar months alone. If we want to explore the possibilities of a repetition of the *Meghadūta* astronomical event in the period from 188 A.D. to 541 A.D., we find that the only previous date for its occurrence was 484 A.D., as the above calculation will show.

We refer the tropical longitudes of the sun to the mean vernal equinox of March 21, 499 A.D., as this was the true date from which the Hindu *siddhāntic* calculations are really started and the mean vernal equinox of the date is the true first point of the Hindu sphere.

It appears from the above calculations that the date 541 A.D., June 20, may be raised by the short interval of 57 years to the date 484 A.D., June 20, from a pure astronomical finding taken singly. There are, however, at present no good reasons even for this small shifting of the date already arrived at, as explained already. It becomes quite inadmissible on a consideration of our last reference in the same way.

In the list of total eclipses of the moon visible in India and happening near the star *Aldebaran* as given in Oppolzer's *Cannon der Finsternisse* during the period from 400 A.D. to 600 A.D., we have only the following:—

Date.		Middle of Eclipse G.M.T.	Half duration for whole eclipse.	Half duration for totality.
459 A.D., October 27	..	14 hrs. 30 mins.	111 mins.	50 mins.
477 A.D., November 6	..	23 hrs. 21 mins.	111 mins.	50 mins.
542 A.D., November 8	..	17 hrs. 5 mins.	112 mins.	51 mins.

As to the eclipse of date October 27, 459 A.D., there cannot be any conjunction of the moon with the star *Rohiṇī* (*Aldebaran*) at its end, as both the date and the hour are unfavourable. As regards the eclipse of November 6, 477 A.D., it would end according to Oppolzer's *Cannon* on the next day at the Ujjayinī mean time 6 hours 16 minutes. But as his authority for the longitude of the moon was Hansen, the end of the eclipse would have to be shifted forward by 23 minutes. Hence the end of the eclipse would be at 6 hours 39 minutes of the Ujjayinī mean time. The sunrise works out as 6 hours 27 minutes of U.M. time, i.e. the eclipse did not end before the sunrise on the day in question. Kālidāsa could not possibly mean this eclipse in his simile in the *Śakuntalā*.

The peculiar lunar eclipse on 8-9 November, 542 A.D., and the sun's turning south on June 20, 541 A.D., taken together thus fixes the date of Kālidāsa about the middle of the sixth century A.D. and this leads to the conclusion that the great poet and the astronomer Varāha were contemporary. We have also already pointed out that Kālidāsa indicates that the summer solstitial colure of his time passed through the star *Castor* for which the date becomes 546 A.D.

As to Varāha's date, we know that he flourished about 550 A.D., as he mentions Āryabhaṭa I (499 A.D.) by name and is himself mentioned by Brahmagupta (628 A.D.). Āmarāja, the commentator of the *Khaṇḍakhādya* of Brahmagupta, says that Varāha died in 587 A.D. Hence the two of the 'nine gems' of the tradition may be contemporary, but that they all belonged to the court of the King Vikramāditya may be wholly wrong.

As far as I have been able to ascertain, the verse which records the tradition, viz.:—

‘Dhanvantari-Kṣapanakāmarasinghaśaṁku-
Vetālabhaṭṭa-Ghatakarpara-Kālidāsāh
Khyāto Varāhamihiro nṛpateḥ sabhāyam
Ratnāni vai Vararuci-r-nava Vikramasya’,

occurs first of all in the last chapter of the astrological work named the *Jyotirvidābharāṇa* by another *Kālidāsa*, who was an astrologer—whose date cannot but be about 1243 A.D. from the following considerations:—

In this work in the last chapter the author says that the epoch of his work is placed in 3,068 years of *Kali* elapsed, i.e. 34 B.C. This cannot be the date of the author as it is only the date from which the calculations are started. His rule for finding the distance of the origin of the Hindu sphere from the vernal equinox shows that this was zero at 445 of the Śaka year elapsed, or 523 A.D. This also cannot be the date of this astrologer *Kālidāsa*. If we examine his rules for finding when the sun and the moon would have numerically equal declinations except near about conjunctions and oppositions, this yields the result that at the time of this astrologer, the distance of the origin of the Hindu sphere from the vernal equinox was about 12°. This makes his date about 1243 A.D. This was also the finding of the late MM. Sudhākara Dvivedī in his Sanskrit work named *Gaṇaka Taraṅgiṇī*, page 46. This author can never be the same person as the greatest Sanskrit poet bearing the same name. As to the last chapter of this work Pandit Dvivedī has said:—

‘Ayamantimādhyayo granthakrtā jagad-vañcanayā
svayam viracito vā kenaciditihāsānabhiñjñena prakṣipta
iti nihsamśayam ayanāmsānāyana—krāntisāmyasāadhanair
granthasthair vibhātī’,

or, ‘This last chapter is either written by the author himself in order to deceive the world or that it was interpolated by a person who was ignorant of history: a conclusion which follows as a necessary corollary to the rules given in the body of the work for finding the distance of the origin of the Hindu sphere from the vernal equinox of date, and for finding the numerical equality in declination of the sun and the moon excepting near about conjunctions and oppositions.’

Thus any statement of the Vikramāditya tradition if found only in the last chapter of this astrological work cannot be taken as correct. The King Vikramāditya may be a mere invention. The moot point here is to explore earlier and more reliable authors before this tradition may be accepted as true. Some of the ‘nine gems’, however, may have been contemporary.

Then again the hypothesis that the ‘Vikrama’ era of having been started from 57 or 58 B.C. is also of very questionable nature, as its original name was perhaps not ‘Vikrama’ era but ‘Mālava’ or ‘Kṛta’ era.

I have examined the statement in the Māndāsor inscription of Kumārgupta and Vandhuvarma, dated 529 of the Mālava era, the day of the second *tithi* of the lunar month of ‘*Tapasya*’. Taking the year to have been 394 Śaka era, the date of the inscription works out as February 15, 473 A.D., on which at Ujjayinī mean midnight:—

True sun = 328° 48' 24",

True moon = 369° 20' nearly, as calculated from the most modern constants.

It appears that the beginning of spring, as stated in the inscription, was estimated about 39 hours earlier, as the astronomical spring is taken to begin when the sun's longitude becomes 330°. It was perhaps owing to the local conditions that the season was taken to have begun two days earlier on the date of the inscription.

Now 473 A.D. = 394 of Śaka era = 529 of the Mālava era = 529 of the now-known Śaivvat era, or that the old ‘Mālava’ era came to be called in later times (not now known exactly) the ‘Śaivvat’ era. I have also found the term ‘*Malavābda*’ in the *J.R.A.S. Bengal*, manuscript of the *Vṛddha Garga Saṁhitā* (I—D—20) in folio 61, *Janapadabyūha*. From the facts stated above we may take it that the old name of the era in question was not known or called as the Vikrama era. The traditional king Vikramāditya of Ujjayinī is in all probability a mythical person. He cannot be identified with any of the Gupta emperors who assumed the title of *Vikramāditya*. The now-known Śaivvat era can also have nothing to do with the time of *Kālidāsa*.

As to the date of Kālidāsa, so far as we can reasonably deduce from the astronomical data in his works, comes out as about 541-546 A.D. or about the middle of the sixth century A.D., and that he is a contemporary of Varāhamihira. So far as I have seen the finding in this paper would not go against any epigraphic evidence as discovered up to date.

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The Genealogical Patronymic Linking System of the Tibeto-Burman Speaking Tribes.

By LO CH'ANG-P'EI.

(Communicated by Dr. K. Nag.)

The genealogical patronymic linking system is a dominant cultural trait of the Tibeto-Burman speaking tribes which, besides the physiological and linguistic factors, can help to determine the relations between the various tribes and throw light on some of the historical problems about the descent and inter-relationship of the *Houses* which have long baffled inquiry. According to this tradition, which is of great antiquity, of the Tibeto-Burman people, generally the names of the father and the son overlap; that is, the last one or two syllables of the father's name are transmitted to the name of the son and become its first one or two syllables; and this is done continuously from generation to generation. It has, to be precise, the following forms:—

1. A B C	C D E	D E F	F G H
E.g., Ên-hêng-no	No-pên-p'ei	Pên-p'ei-k'o	K'o-Kau-lie
2. A ¹ □ B	B □ C	C □ D	D □ E
E.g., Kung-a-lung	Lung-a-kau	Kau-a-shou	Shou-a-mei
3. A B C D	C D E F	E F G H	G H I J
E.g., Yi-tsun-lau-sho	Lau-sho-tu-tsai	Tu-tsai-a-tsung	A-tsung-yi-k'ü
4. □ A □ B	□ B □ C	□ C □ D	□ D □ F
E.g., A-tsung-a-liang	A-liang-a-hu	A-hu-a-lie	A-lie-a-kia

In each several branch, there may be some slight variations but, as a rule, the forms do not go beyond the above four.

My interest in this subject was first aroused by some casual readings. In 1942 I made a trip to Chi-tsu-shan, a mountain in the west of Yunnan; and there in a temple called Si-t'an-sü, I came upon the records of the house of Mu, the native governor of Li-kiang. The records are called 'The Genealogy of the House of Mu with Portraits'. My curiosity was thus further piqued. After the trip I referred myself to the various treatments of the subject in the writings of Dr. T'ao Yun-k'uei, Mr. Tung Tso-pin, and Dr. Ling Shun-shêng; and, putting my notes in order, I wrote the Genealogy of the House of Mu at Si-t'an-sü on Chi-tsu-shan, which was published in issue 25, volume 3 of the *Contemporary Review*. After that, through my own researches and the aid of friends I have gathered together varied other data. With these I now write this treatise in the hope that those interested in the

¹ The sign □ shows the same inserted sound.

problem, whether anthropologists, ethnologists or linguists, may supplement or revise what is here put forward so as to solve this problem adequately.

I shall discuss the subject under three headings, each with its items and sub-items.

I. THE BURMAN BRANCH.

1. *The Burman.*

About this branch I have acquired as yet no first-hand data; however, I have discovered the genealogical patronymic linking practice in their histories. The Dynasty Moriya of Burma, covering the period from the second to the fourth century A.D., did also use the system as can be seen in the following genealogy of theirs:—

Pyo-so-ti	Ti-min-yi	Yi-min-baik
Baik-then-li	Then-li-jong	Jong-du-yit ¹

I hope the above to be supplemented by scholars versed in Burman lore and history.

2. *The A-chit.*

The A-chit is a branch living in tracts of country bordering on Burma in the north-west of Yunnan. I got, last spring, two genealogies of this branch. One is of a man called K'ung-k'o-lang and includes forty-six generations. The other is of one named Tung-ch'ang-shau and counts nine generations. We now reproduce them here:—

A. The genealogy of K'ung-k'o-lang:

1. Ya bc bawm ²	2. Mashaw bawm	3. Bawm shaw chung
4. Chung shaw nin	5. Shaw nin k'ying	6. K'ying da ê
7. da ê saw	8. Shaw yaw chu	9. Chu fu fek
10. Fu fek k'un	11. K'un kwe zik	12. Zik k'u lam
13. K'u lam pe	14. Shaw gyaw la ts'ang	15. Ts'ang zaw byu
16. Byu zaw te	17. Te maw yaw	18. Maw yaw p'yau
19. p'yau byaw yang	20. Yang lawm lik	21. Lik ding chit
22. Chit kang yau	23. Kang yau gwi	24. Gwi chung chyit
25. Chung chyit yaw	26. Yaw au ding	27. Ding law waw
28. Waw law jang	29. Jang law bawm	30. Bawm law nu
31. Nu kyang	32. Kyang bau	33. Bau myaw
34. Myaw t'uk	35. T'uk bawm	36. Bawm zing
37. Zing yaw	38. Yaw Bawm	39. Bawm k'aw
40. K'aw ying	41. Ying sau	42. Sau ying
43. Ying yaw	44. Yaw ying	45. Ying k'aw
46. K'aw lang		

Of the forty-six names above, except the first and the second which are of the same generation, all the rest show name-linking practice between the father and the son. There is indeed a break between the thirteenth and fourteenth generations. But according to K'ung-k'o-lang 'from the thirteenth generation up, they could still talk with oxen, dogs, trees and plants as they were not yet men altogether'. If so, are the names from that generation up yet legendary perhaps, and not to be accepted as the true genealogy of the house of K'ung-k'o-lang?

B. The genealogy of Tung-ch'ang-shau:

1. Yawn sau	2. Sau chang	3. Chang lang
4. Lang bau; Lang gyng	5. Bau zung; Bau ying; Bau taik	
6. Zung ying	7. Ying sau	8. Sau chang
9. Chang sau		

¹ Phayre: History of Burma, p. 279, quoted by Dr. Ling Shun-shêng in his article 'A Study of the U-man and Pei-man of Yunnan in the T'ang Dynasty', The Anthropological Journal of the Institute of History and Philology, Academia Sinica, 1938.

² The notation used here follows O. Hanson's System for Kachin Language with a little modification.

In this genealogy the fourth generation consists of two brothers and the fifth of three brothers. Tung's line seems to have derived from the eldest brother. According to Tung-ch'ang-shau, P'ien-ma was quite a jungle when his ancestor of the first generation in the genealogy, Yawn sau, went there four hundred years ago, and began to reclaim the place. His grave is now at Lower P'ien-ma. There are monuments with inscriptions in Chinese and engraved portraits at the grave. The grave of his ancestor of the fourth generation is on the Gyang mountain also at Lower P'ien-ma; that of his ancestor of the fifth generation is at Aw Yaw Bau also at Lower P'ien-ma. There are no monuments at these two graves.

Comparing these two genealogies, it is evident to us that the genealogy of Tung's house is later by far than that of the house of K'ung. If the words of Tung-ch'ang-shau are to be believed, the Tung's seem to have removed to P'ien-ma at the end of the reign of Kia-ting in the Ming Dynasty, that is about 1541-1566 A.D.

II. THE MOSO OR NA-KHI.

Mr. Yü-k'ing-yuan made the following statement on the Moso in his *Notes about Wei-si*: 'The Moso have no names and surnames. They use the last word of the name of the grandfather and that of the name of the father together with a new word to form their own name. The names of the successive generations link themselves like a chain and the removes in kinship are thus shown.' As a matter of fact, if we examine with care the two genealogies of the Moso given below as well as the ways of name-linking shown above, the words of Mr. Yü will soon be found to be but plausible and by no means accurate. The data we have come at are as follows:—

(a) The religious classics of the Moso at Li-kiang which record thus the six generations after the great Deluge:—

- | | | |
|-----------------------------------|----------------|------------------------------|
| 1. Tsung-cheng-li-ên ¹ | 2. Ên-hêng-no | 3. No-pên-p'ei |
| 4. Pên-p'ei-k'o | 5. K'o-kau-lie | 6. Kau-lie-ts'u ² |

According to Mr. Yü the name of the third generation should be Ên-no-p'ei, that of the fourth should be No-p'ei-k'o. It is evidently at odds with the data.

(b) The genealogy of the house of Mu at Li-kiang.

The head of the house of Mu was successively the native governor of Li-kiang from about the reign of Wu-têh (618-626 A.D.) to the beginning of the Ts'ing Dynasty. There are four extant documents about the genealogy of this house:

(1) The introduction to the genealogy of the house of Mu by Yang shên written in the twenty-fourth year of the reign of Kia-ting in the Ming Dynasty (1545 A.D.) now kept at Mu's house at Li-kiang.

(2) The genealogy of the house of Mu with portraits; bound in one volume with Yang's introduction. There are two extant copies; one was inscribed on the cover as 'The Picture of Mu's Tendering Allegiance' by Ch'en Chao-chung of Hainan and had an addendum and epilogue in verse by the same. It is now at Mu's house at Li-kiang. The other, inscribed as 'The Genealogy of the House of Mu-with Portraits', is now in Si-t'an-sü on Chi-tsu-shan.

(3) The monument engraved with the genealogy of the house of Mu now in the graveyard of the house at Shê-shan about ten li south-east of Li-kiang, erected in the twenty-second year of Tau-kuang in the Ts'ang Dynasty (1842 A.D.).

(4) A draft of the genealogy of the house of Mu in the notes appended to the Moso Chao in the records about the natives of the south in the draft of a sequel to the provincial gazetteer of Yunnan compiled by Wang-Wen-shau and others in the twenty-seventh year of the reign of Kuang-hsü in the Ts'ing Dynasty (1901 A.D.).

¹ The Moso's genealogies (a) and (b) are read in Mandarin from the Chinese translation, and transcribed by T. F. Wade's system.

² Quoted by Mr. Tung Tso-pin, in his article 'New Evidence concerning the Genealogy of Tibeto-Burman People', Bulletin of the Ethnological Study, No. 2, pp. 151-200, 1940, published by Sun-Yet-sen Cultural and Educational Institute.

The agreements and divergences among these four kinds of data are detailed in the article 'On the Name, the Habitation and the Migrations of the Moso'¹ by T'ao Yun-k'uei and my article 'The Genealogy of the House of Mu at Si-t'an-sü on Chi-tsu-shan'. We shall not enlarge upon them here but just give the genealogy as is engraved on the monument:—

- | | | |
|--------------------------------|----------------------------|--------------------------|
| 1. Ts'ü-yang | 2. Yang-in-tu-ku | 3. Tu-ku-la-kü |
| 4. La-kü-p'u-mêng | 5. P'u-mêng-p'u-wang | 6. P'u-wang-la-wan |
| 7. La-wan-si-nai | 8. Si-nai-si-k'o | 9. Si-k'o-la-t'u |
| 10. La-t'u-ngo-kün | 11. Ngo-kün-mou-kü | 12. Mou-kü-mou-si |
| 13. Mou-si-mou-ts'uo | 14. Mou-ts'uo-mou-lê | 15. Mou-lê-mou-pau |
| 16. Mou-pau-a-tsung | 17. A-tsung-a-liang | 18. A-liang-a-hu |
| 19. A-hu-a-lie | 20. A-lie-a-kia | 21. A-kia-a-têh (Mu-têh) |
| 22. A-têh-a-ch'u (Mu'ch'u) | 23. A-ch'u-a-t'u (Mu-t'u) | |
| 24. A-t'u-a-ti (Mu-shen) | 25. A-ti-a-sü (Mu-k'in) | |
| 26. A-sü-a-ya (Mu-t'ai) | 27. A-ya-a-ts'iu (Mu-ting) | |
| 28. A-ts'ing-a-kung (Mu-kung) | 29. A-kung-a-mu (Mu-kau) | |
| 30. A-mu-a-tu (Mu-tang) | 31. A-tu-a-shêng (Mu-wang) | |
| 32. A-shêng-a-chai (Mu-ts'ing) | 33. A-chai-a-sü (Mu-tsêng) | |
| 34. A-sü-a-chun (Mu-yi) | 35. Mu-hsi | |
| 36. Mu-sung | 37. Mu-run | |
| 38. Mu-tsi | 39. Mu-ren | |

In the thirty-nine generations above, the first and second generations are seen to use the first form of patronymic linking system; from the third to the sixteenth they used the third form; from the seventeenth to the thirty-fourth they used the fourth form. Though the surname of Mu was conferred on them by the Ming Dynasty since its beginning, they could not yet give up their habit of name-linking and merely added the last word of their name to the surname Mu to form the required name. Thus A-kia-a-têh was also called Mu-têh. It was not till the reign of K'ang-hsi in the Ts'ing Dynasty (after 1662 A.D.) that such a cultural trait began to disappear in the name of Mu-hsi.

As to those branches of Si-fan beside the Moso we have to pass them over for the present for want of reliable data.

III. THE LOLO BRANCH.

About this branch the data I have gathered are more ample; it may be treated under three items and six sub-items.

1. *The Lolo.*

I have so far seen five genealogies of this branch:—

(a) The thirty generations before the Deluge in the so-called royal genealogy in '*A Collection of Lolo Writings*' by V. K. Ting. They read as follows:—

- | | | |
|----------------------------|------------------|---------------------|
| 1. Hsi-mu-chê ² | 2. Chê-tau-kung | 3. Kung-chu-shih |
| 4. Shih-a-li | 5. Li-a-ming | 6. Ming-ch'ang-kuai |
| 7. Ch'ang-kuai-tsuo | 8. Tsuo-a-ts'ie | 9. Ts'ie-a-tsung |
| 10. Tsung-a-yi | 11. Yi-a-tsi | 12. Tsi-p'ê-nêng |
| 13. P'ê-nêng-tau | 14. Tao-mu-yi | 15. Mui-yi-ch'ih |
| 16. Ch'ih-a-suo | 17. Suo-a-têh | 18. Têh-si-suo |
| 19. Si-suo-to | 20. To-pi-yi | 21. Pi-yi-tu |
| 22. Tu-si-sien | 23. Si-sien-t'o | 24. T'o-a-ta |
| 25. Ta-a-wu | 26. A-wu-no | 27. No-chu-tu |
| 28. Tu-chu-wu | 29. Wu-lau-ts'uo | 30. Ts'uo-chu-tu |

¹ Bulletin of the National Research Institute of History and Philology, Academia Sinica, Vol. VII, pp. 121-135, 1938.

² The Lolo's genealogies (a), (b), (c) are read in Mandarin and transcribed by T. F. Wade's system.

The translator Lo Wên-pi said in the introduction: 'During the thirty generations from the first man Hsi-mu-chê to Ts'uo-chu-tu, there was no writing of any sort; all things were transmitted orally. In the twenty-ninth generation, it pleased God to send down a priest, Mi-a-tie by name, who instituted sacrifices, rites, and laws and invented writing. Thus culture dawned and good manners began. I have not here the book called *Notes on the Deluge* and so cannot describe what happened then more circumstantially.' The so-called Deluge seems to have been an epoch from which we may trace back to their legendary first man Hsi-mu-chê and forward to their connection with the house of An at Shui-si to whose first ancestor, Tu-mu-wu, Ts'uo-chu-tu the thirtieth and last of the genealogy transmitted the last syllable of his name.

(b) The genealogy of the Lolo house of An at Shui-si in Kweichow in the so-called royal genealogy in '*A Collection of Lolo Writings*'.

There are eighty-four generations in all from Tu-mu-wu to Yi-fen-ming-tsung (also called An-k'un in Chinese):—

- | | | |
|-----------------------|------------------------|-----------------------|
| 1. Tu-mu-wu | 4. Mu-ts'i-ts'i | 3. Ts'i-a-hung |
| 2. Hung-a-têh | 5. Têh-ku-sha | 6. Sha-ku-mu |
| 7. Ku-mu-kung | 8. Kung-a-lung | 9. Lung-a-kau |
| 10. Kau-a-shou | 11. Shou-a-mei | 12. Mei-a-têh |
| 13. Têh-a-shih | 14. Shih-mei-wu | 15. Mei-wu-mêng |
| 16. Mêng-tie-to | 17. To-a-chih | 18. Chih-wu-shuo |
| 19. Wu-shuo-pi | 20. Pi-yi-mei | 21. Mei-a-liang |
| 22. Liang-a-tsung | 23. Tsung-a-pu | 24. Pu-a-shuo |
| 25. Shuo-a-t'au | 26. T'au-a-ch'ang | 27. A-ch'ang-pi |
| 28. Pi-yi-mêng | 29. Mêng-wu-shou | 30. Shou-a-tien |
| 31. Tien-a-fa | 32. Fa-yi-yi | 33. Yi-yi-ch'ih |
| 34. Ch'ih-a-chu | 35. Chu-a-tien | 36. Tien-a-tsi |
| 37. Tsi-a-têng | 38. Têng-a-tu | 39. Tu-a-ta |
| 40. A-ta-to | 41. To-a-t'a | 42. T'a-a-K'i |
| 43. K'i-a-fou | 44. Fou-na-chih | 45. Na-chih-tu |
| 46. Tu-a-kêng | 47. A-kêng-a-wên | 48. A-wên-lo-nan |
| 49. Lo-na-a-k'ê | 50. A-k'ê-yi-tien | 51. Yi-tien-tsi-k'i |
| 52. Tsi-k'i-ren-yi | 53. Ren-yi-pu-yie | 54. Pu-yie-yi-tsun |
| 55. Yi-tsun-lau-shuo | 56. Lau-shuo-tu-tsai | 57. Tu-tsai-a-tsung |
| 58. A-tsung-yi-k'u | 59. Yi-k'u-pu-yi | 60. Pu-yi-a-yi |
| 61. A-yi-a-lo | 62. A-lo-a-tung | 63. A-tung-ta-wu |
| 64. Ta-wu-lau-nai | 65. Lau-nai-lau-tsai | 66. Lau-tsai-a-k'i |
| 67. A-k'i-lau-ti | 68. Lau-ti-pu-chih | 69. Pu-chih-na-k'au |
| 70. Na-k'au-pêng-tsai | 71. Pêng-tsai-lau-chih | 72. Lau-chih-lau-p'u |
| 73. Lau-p'u-pu-tsu | 74. Pu-tsu-chih-pa | 75. Chih-pa-an-tsuo |
| 76. An-tsuo-chih-wu | 77. Chih-wu-lau-ch'êng | 78. Lau-ch'êng-lo-si |
| 79. Lo-si-fei-shuo | 80. Fei-shuo-lau-ku | 81. Lau-ku-lau-têh |
| 82. Lau-têh-lau-tien | 83. Lau-tien-yi-fen | 84. Yi-fen-ming-tsung |

It was said by Lo Wên-pi, 'I have found in the genealogy that there are eighty-four generations from our ancestor Mu-ts'i-ts'i to our lord An-k'un who was captured by Wu-san-kuei.' The vicissitudes of peace and war, prosperity and decline in the course of the long ages cannot be here minutely recorded. From the ruin of the house by Wu-san-kuei to Lo Wên-pi, there are six more generations. So if we are to count from their first ancestor Hsi-mu-chê, there are one hundred and twenty generations altogether which used uniformly the patronymic system.

(c) The ancient history of the Lolo of Wu-ting.

The data on this subject were got by Mr. Ma Shüe-liang from the house of the native governor Fêng. One of the data is a genealogy of six consecutive generations:—

- | | | |
|------------------|------------------|-----------------|
| 1. Chu-ch'ê-k'ê' | 2. Ch'ê-k'ê-shih | 3. Shih-a-sha |
| 4. Sha-lu-cho | 5. Lu-cho-ch'um | 6. Ch'u-shu-tsu |

There is another of ten generations:—

- | | | |
|---------------|----------------|----------------|
| 1. Mu-a-ts'i | 2. Ts'i-a-hung | 3. Hung-a-têh |
| 4. Têh-wo-suo | 5. Suo-wu-mu | 6. Wu-mu-ch'ou |
| 7. Ch'ou-a-nu | 8. Nu-a-lu | 9. Lu-a-shih |
| 10. Shih-a-mê | | |

The first three generations of the second genealogy are the same as the second, third, and fourth generations of the genealogy of the An's of Shui-si. There are more than twenty such genealogies in the data collected by Mr. Ma. We here reproduce but two of them.

(d) The patronymic linking system of the Lolo at Mien-ning in Szechwen.

This is put down by Mr. Fu Mao-tsi from the report of the Black Lolos of Siao-siang-kung-ling at Mien-ning, and Mr. Fu has written an article 'The Genesis in the Lolo Lore' published in *Frontier Service*, a journal of Ch'êngtu. A copy of the data he sent me is reproduced below:—

V	jê	Shih	l	<i>tsü</i> ¹ (<i>tsü</i> means 'from').
Shih	l	hê	t'ê	<i>ts'ü</i> (<i>ts'ü</i> means 'first generation').
hê	t'ê	ŵo	lê	<i>gnie</i> (<i>gnie</i> means 'second').
Ŵo	lê	ch'ü	pu	<i>sua</i> (<i>sua</i> means 'third').
Ch'u	pu	jü	m	<i>l</i> (<i>l</i> means 'fourth').
jü	m	zé	so	<i>go</i> (<i>zé so</i> means 'three sons'; <i>go</i> means 'measure' in its original sense, here it is used in the sense of 'having').
jü	m	jü	t'ê	<i>ge</i> (<i>ge</i> means 'without issue').
jü	m	jü	l	<i>ge</i> .
jü	m	v	v	<i>dzu</i> (<i>dzu</i> means 'having descendants').
v	v	zé	so	<i>go</i> .
v	v	ki	tsih	<i>le no su</i> (<i>le</i> is a particle used as a connecting word, <i>no su</i> means 'black man').
v	v	la	ie	<i>ie le he ngga</i> (<i>he ngga</i> is the name used by Lolo to Chinese).
v	v	sü	sha	<i>le o dzu</i> (<i>o dzu</i> is the name used by Lolo to Si-fan).

In this example we see words of specific sense added to the names; all those italicized are such words. It counts but six generations but the patronymic linking system therein is quite evident while the relations of Lolo, Chinese, Si-fan in the mind of the Lolo are also betrayed.

Dr. Ling Shun-shêng said in 1935, 'When I came upon at Yunnan a young Lolo of the vicinity of Ta-liang-shan, called K'ü-mu-tsang-ming, he told me that his father can recite with precision the genealogy of their house which comprehends scores of generations all with linked names.'² Corroborated by the testimony of Mr. Fu, it is proved that this practice of linking names is equally current with the Lolo of Szechwen.

2. *The Woni.*

The Woni is the name given by the Chinese to those speaking a language related with Lolo in the south of Yunnan. They live in places none of which is north of long. 24°N. In Book VIII of *Man-su-ho-chih* the combined records of Native Tribes, by Mao K'i-ling, it is said: 'The natives of the region, the Lolo and the Woni, are given to fighting with each other. Deaths are paid for with money. They have no family names; their names are formed with the last word of the father's name. In the reign of Hung-chih (1488-1505 A.D.) the chief magistrate Ch'ên Cheng assigned severally the first eight surnames in the Book of *Pai-kia-sing* or one hundred surnames to eight districts to be added to their names. Each district accepted its surname except the Na-lou.' We see here that the Woni use the patronymic linking

¹ Mr. Fu's original transcription is written by I.P.A., here I have changed it into T. F. Wade's system with a little modification.

² Ling Shun-shêng, *ibid.*, p. 70.

system as well. Last summer Mr. Kao Hua-nien and Professor Yuan Kia-hua went to Sin-p'ing and Ngo-shan, two districts in south Yunnan, to inquire into the Woni language. To my regret they have not noted this practice of theirs. Probably the Woni in those districts are deeply imbued with Chinese influence and gradually forget their old ways. So I cannot verify the words of Mao K'i-ling as I can do in the case of the Lolo.

3. *The A-ka.*

The A-ka are very numerous in the east part of Keng Tung and the adjoining parts of French Laos and Southern Yunnan. In 1935, Dr. T'ao Yun-k'uei made an anthropological investigation of the Shan people of Southern Yunnan; and in his journey from Mong-lem to Mong-chieh, he came upon an A-ka village where from the mouths of two A-ka old men he got the two following genealogies:—

(a) The genealogy of Bluo-sä, fifty-six generations in all:—

- | | | |
|-------------------------|------------------|------------------|
| 1. Su-mi-o ¹ | 2. O-tzuo-lö | 3. Tzuo-lö-tzung |
| 4. Tzung-mö-yieh | 5. Mö-yieh-ch'ia | 6. Ch'ia-di-hsi |
| 7. Di-hsi-li | 8. Li-hö-bä | 9. Hö-bä-wu |
| 10. Wu-nio-za | 11. Nio-za-tzuo | 12. Tzuo-mö-er |
| 13. Mö-er-chü | 14. Chü-tuö-p'uo | 15. Tuö-p'uo-muo |
| 16. Muo-küo-tuö | 17. Küo-tuö-ji | 18. Ji-lê-nio |
| 19. Nio-ch'i-la | 20. La-tang-buö | 21. Buö-muo-buo |
| 22. Muo-buo-ji | 23. Ji-la-bi | 24. Bi-mö-tzuo |
| 25. Tzuo-huä | 26. Huä-jiä | 27. Jiä-tzä |
| 28. Tzä-jio | 29. Jiö-blung | 30. Blung-läi |
| 31. Läi-mi | 32. Mi-hsia | 33. Hsia-yi |
| 34. Yi-ch'ia | 35. Ch'ia-kung | 36. Kung-kang |
| 37. Hsia-tzuo | 38. Tzuo-ji | 39. Ji-z'a |
| 40. Z'a-bang | 41. Bang-läi | 42. Läi-ni |
| 43. Ni-buo | 44. Buo-pö | 45. Ma-buo |
| 46. Buo-gong | 47. P'u-da | 48. Da-tzung |
| 49. Tzung-ch'iuo | 50. Ch'iuo-ji | 51. Ji-z'a |
| 52. Z'a-nio | 53. Nio-chuo | 54. Chuo-zä |
| 55. Zä-bluo | 56. Bluo-sä | |

b) The genealogy of Ou-lä, forty-seven generations:—

- | | | |
|------------------|------------------|------------------|
| 1. Su-mi-o | 2. O-tzuo-lö | 3. Tzuo-lö-tzung |
| 4. Tzung-mö-yieh | 5. Mö-yieh-ch'ia | 6. Ch'ia-di-hsi |
| 7. Di-hsi-li | 8. Li-hö-bä | 9. Hö-bä-wu |
| 10. Wu-nio-za | 11. Nio-za-tzuo | 12. Tzuo-mö-er |
| 13. Mö-er-chü | 14. Chü-tuö-p'uo | 15. Tuö-p'uo-muo |
| 16. Muo-küo-tuö | 17. Küo-tuö-ji | 18. Ji-lê-nio |
| 19. Nio-ch'i-la | 20. La-tang-buo | 21. Tang-buo-sö |
| 22. Buo-sö-läi | 23. Läi-lang-buo | 24. Buo-yi-nö |
| 25. Nö-muo-buo | 26. Muo-buo-di | 27. Di-hsia-biä |
| 28. Biä-muö-tzö | 29. Tzö-wo-yi | 30. Wo-yi-jia |
| 31. Jia-tzä | 32. Tzä-jio | 33. Jiö-blung |
| 34. Blung-läi | 35. Läi-hsia | 36. Hsia-yi |
| 37. Yi-chiä | 38. Chiä-kung | 39. Kung-kang |
| 40. Hsia-tzuo | 41. Tzuo-ji | 42. Ji-za |
| 43. Za-bang | 44. O-dë | 45. Dë-gong |
| 46. Gong-tzuo | 47. Ou-lä | |

The two genealogies are the same for the first twenty generations. The first genealogy from the twenty-seventh to the fortieth generation corresponds to the second from the thirty-first to the forty-third generation. Yet the first genealogy from the twenty-first to the twenty-sixth and the forty-first to the fifty-sixth as

¹ According to Dr. Tao's own transcription.

well as the second from the forty-fourth to the forty-seventh have their own several lines. We see, however, the two genealogies are, at all events, very near in kinship. The breaks at the twenty-seventh and thirty-seventh generations in the genealogy A, and at the fortieth and forty-fourth generations in the genealogy B, may be due to errors of the recital or some other causes about which we cannot yet be sure in the present state of our knowledge.

The above discussion is limited to the data we have yet got at. It seems to be a matter of course that there is many another branch in the Tibeto-Burman speaking tribes as well as other peoples that have the same cultural tradition. In this account, I propose by the way that scholars, similarly interested, may help to find out the spread and antiquity of the practice among the related peoples.

Now it may well be asked what is the real use of such a practice. To our mind, it is, in the first place, mnemonic. All the branches except the Lolo and Moso have no writings; or, where they have some writing, it is not for everyday use. When names are thus overlapped in a sequence, they are much easier to remember. Everyone can then keep in mind the names of all his known ancestors down to himself and therewith identify their kinsmen and know their removes from himself. It is therefore of evident importance with them.

The other use is that it is of aid to us in solving the problems about descent of families in history.

As to the ancient history of Yunnan, though there are records of it in ancient Chinese histories such as the *Book of Historical Records* by Su-ma-ts'ien, the *History of the Han Dynasty* by Pan-ku, the *Hua-yang-kuo-chih* by Ch'ang-kü and *Man-shu* by Fan-ch'o, they are, one and all, too brief and general. It was in the Yuan and Ming Dynasties that the Chinese came to have access to the *Pa's Ancient History* written in the Pa-tsi language and began to know more about the ancient history of Yunnan. Then there came in the Yuan Dynasty the *Records of Ancient Yunnan* by Chang Tau-tsung, in the Ming Dynasty the *Legends of Nan-chao*¹ by Ruan-yuan-shêng; and Yang Shên wrote the *Records of Ancient Yunnan*. They all have accounts of the genealogy of the ancient kingdom of Nan-chao. But they are often mixed up inextricably with Ai-lao's tale of Sha-yi related in the *History of the Later Han Dynasty* on the one hand, and on the other the legends about Acoka brought in by Buddhism. Mr. Tung Tso-pin in his *New Evidences concerning the Genealogy of the Tibeto-Burman People* made a comparison between the nine sons of Ti-mung-tso in the *Pa's Ancient History* and the twelve sons of Tu-chu-wu, or Tu-wu-chu according to Mr. Tung, in the *Royal Genealogy* of the Lolo and adduced many a valuable idea which we cannot dwell upon in detail here. We shall rather confine ourselves to the genealogy of Nan-chao.

There are historians, western sinologists, and students of the Shan history, such as Hervey de Saint-Devis, Parker, Rocher, Cochrane and others who are of opinion that the Nan-chao was very akin to the Shan and should therefore be referred to the Tai people; and they go so far as to assert that Nan-chao was a kingdom founded by the Shan.

With regard to such opinion, let alone other objections, the evidence of the genealogy itself is enough to refute them.

In the *Legends of Nan-chao* compiled by Yang-shên, the genealogy of Nan-chao according to the *Pa's Ancient History* is:—

Pyo-tso-ti

ti-mung-tso

Mung-tso-tu

After that there are thirty-six generations down to the following:—

- | | | |
|---------------------|-----------------|----------------------|
| 1. Si-nu-lo | 2. Lo-ch'êng | 3. Ch'êng-lo-p'i |
| 4. P'i-lo-ko | 5. Ko-lo-fêng | 6. Fêng-kia-yi |
| 7. Yi-mou-sün | 8. Sün-lo-k'üan | 9. K'üan-lung-ch'êng |
| 10. Ch'êng-fêng-you | 11. Shih-lung | 12. Lung-shun |
| 13. Shun-hwa-chên | | |

¹ The word Chao means kingdom here.

If we acknowledge the name-linking practice to be the cultural trait of the Tibeto-Burman speaking tribes, the opinion referred to above will fall to the ground of itself when confronted with the evidence of the 'genealogy of Nan-chao.

Besides Nan-chao there are five other Chao which also use the name-linking system. The four generations of Mung-tsün-chao are:—

- | | |
|-----------------|---|
| 1. Tsün-fu-shou | 2. K'a-yang-chau (Tsün-fu-shou's brother) |
| 3. Chau-yuan | 4. Yuan-lo |

The two generations of Yüe-si-chao or Mosu-chao are:—

- | | |
|--------------|----------------------------------|
| 1. Po-ch'ung | 2. Yü-tsêng (Po-ch'ung's nephew) |
|--------------|----------------------------------|

The six generations of Lang-k'üing-chao are:—

- | | | |
|---------------|----------------|---------------|
| 1. Fêng-shih | 2. Lo-to | 3. To-lo-wang |
| 4. Wang-p'ien | 5. P'ien-lo-yi | 6. Yi-lo-kün |

The five generations of Têng-yan-chao are:—

- | | | |
|-----------------|----------------|----------------|
| 1. Fêng-mie | 2. Mie-lo-p'i | 3. P'i-lo-têng |
| 4. Têng-lo-tien | 5. Tien-wên-to | |

The four generations of Shih-lang-chao are:—

- | | |
|----------------|------------------------------------|
| 1. Wang-mu | 2. Wang-ts'ien (Wang-mu's brother) |
| 3. Ts'ien-pang | 4. Pang-lo-tien ¹ |

In the house Tuan at Tali which was later more deeply imbued with Chinese influence, such a cultural trait was no longer salient. Yet the son of Tuan-chih Siang was called Siang-hsing; his grandson was called Hsing-chih. So traces of the name-linking practice were still betrayed.

As to the house of Kau which founded their so-called 'Ta-chung-kuo', they, too, preserved the custom as is shown in the following genealogy:—

- | | |
|-------------------|--------------------|
| 1. Kau-chih-shêng | 2. Kau-shêng-t'ai |
| 3. Kau-t'ai-ming | 4. Kau-ming-ts'ing |

The descendants of the house of Kau were in succession the native governors of Yau-au-fu at the beginning of the Ts'ing Dynasty, and they also observed the name-linking practice. On page 17, Volume 135 of the provincial gazetteer of Yunnan, compiled in the twentieth year of the reign of Kuang-sü (1894), there is the following statement which is a quotation of the old records:—

'At the beginning of the reign of Shun-chih (1644 A.D.) Kau-kuêng-yêng offered allegiance and was confirmed in his hereditary powers. At his death, his son Yêng-hou succeeded who was again succeeded by his son Hou-têh. In the third year of the reign of Yung-chêng (1775 A.D.) he was deposed for defiance of the law and exiled to Kiang-nan.'²

From this note the prevalence of the custom of name-linking is further brought home to us.

It occurred to me that Dr. Shih Hu had also a note on 'the Absence of Surnames in India' in his *Ts'ang-huei-shih Diary*, Volume V, entered under July seventh, 1914. It said: 'Happening to meet Mr. So and So of India, I was told that there are no family names there. They have only names. The transmission of the names is like this: If the name of the father is John Joseph Mathew, the son's name will be Joseph Mathew Richard. Richard is the new name; the former two are derived from the father's name. And the grandson's name is to be Richard Philip Charles and the great grandson's, Philip Charles William and so on.' The names John, Richard and the like are of course just borrowed from the west to make clear the practice to foreigners. I am much interested in this; and I regret that my knowledge

¹ The genealogies of the six Chao are determined with reference to Fan-ch'ö's *Man-shu*, *Nan-man-chuan* in the *New History of T'ang Dynasty* and the *Legends of Nan-chao* by Yang Shên. And they, as well as the genealogies of the houses of Tuan and Kau, are read in Mandarin from the Chinese translation and transcribed by T. F. Wade's system.

² Quoted by Dr. Ling Shun-shêng in his article mentioned above.

of India is so meagre. It is my hope, however, that the earnest concern implied in dedicating this article to the 11th All-India Oriental Conference could induce some response from Indian scholars and this common point in the cultures of India and China be illuminated by their blend light.

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Short Account of Nawab Sultanyar.

By M. KAZI.

(Communicated by Dr. K. Nag.)

Nawab Sultanyar was the son of Alayar, a near relative of Mirza Aziz Kokal Tash (foster-brother of Akbar). His father worked under Khan Azam when the latter was appointed Subedar of Malwa by the Emperor Akbar. From small beginning, Alayar, through his best efforts in serving the emperors faithfully, from Akbar to Aurangzeb, reached the position of an officer of 1,000 horse over and above an Alambaradar (flag bearer) in the reign of Aurangzeb.¹

Alayar had four sons: Sultanyar, Asfandiyar, Abdulgazi Mahyar and one brother Rehmatyar. All of them served the Moghal kings. Sultanyar in his early years had the honour of becoming an Amir in the reign of Shahjahan and received the mansabdarship in the year 1038² A.H. As he was bold and brave, wise and witty, pious and God-fearing, the emperor offered him a mansabdarship over 250 horse. The emperor was very much pleased when he was sent along with his brother Asfandiyar to attack Bijapur where he fought bravely and with great tact. The emperor as a mark of honour showed favour by increasing his post from Rs.600 to Rs.1,000 and later on, he was given the title of Nawab and sent along with his brother Asfandiyar as a joint *Fozdar* of Baroda in the year 1057³ A.H. and after five years, his brother was called to Delhi and he was given the full powers to work as a Fozdar of Baroda as well as the title of Himmatkhan.⁴ He worked in Baroda for ten years and became very popular among the public, and so the emperor had a good idea of him and in order to inspire him, he showed him favour by transferring to Dholka.⁵

From above it is clear that Sultanyar was an able man and rendered his services promptly and faithfully in the interest of the State and as for further proof, the emperor again increased his pay from Rs.1,000 to Rs.1,500. From Dholka he was transferred to Belpar as Thanedar with mansabdarship of 1,000 horse.⁶

When Prince Murad Bakhsh was the Viceroy of Ahmedabad, Nawab Sultanyar was under him as Thanedar of Belpar. He was then called to Delhi to take part with him in fighting against Dara on the side of Aurangzeb. During that time when Shahjahan fell ill in 1657, the administration of the State was in the hands of Dara; and there was a disunion among brothers. This brought them to arms. Aurangzeb joined his hands with Murad. Thus Dara met his brothers on the battle-field near Dharmatpur in April 1658 and in May at Samugarh, where Dara was defeated. In these two battles Sultanyar was present⁷ and had to fight bravely in the cause of his master. Afterwards Aurangzeb imprisoned Murad in the fort of

¹ Alamgirnama, page 751.

² Badshahnama, Part 1st F. 3, page 265.

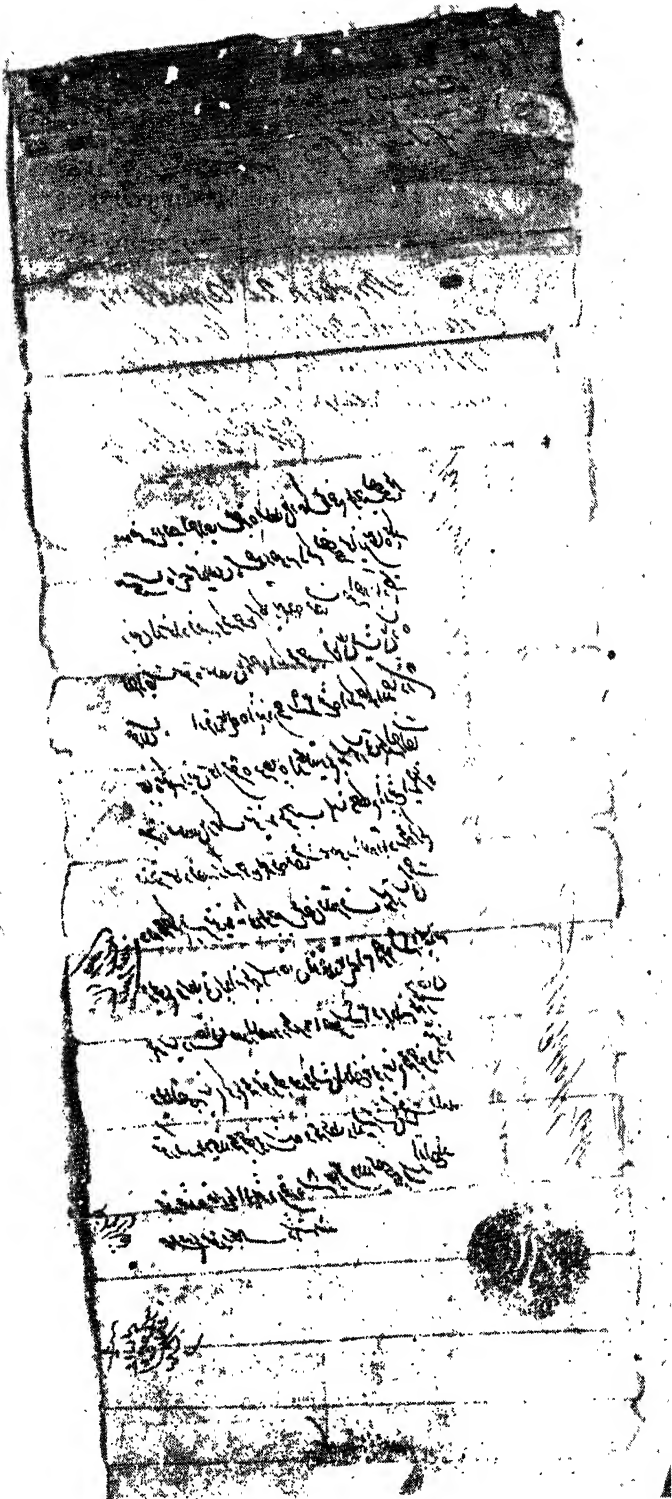
³ " " " F. 9, " 320.

⁴ " " " 2nd F. 18, " 732.

⁵ Mirate Ahmedi, page 242.

⁶ Mirate Ahmedi, page 23.

⁷ Alamgirnama, page 77.



Gwalior in 1659.¹ Amongst the officers of Murad, some entered in the camp of Aurangzeb and others fled away to their respective posts. Sultanyar fled to Belpar in 1659. One of the faithful servants of Dara, named Gulmahomed, collected men and material to help him in this plight. The people of Broach played an important part in this game. Aurangzeb was very much enraged against them and he ordered to raze some of the fortifications of Broach.² It is probable that in that bloodshed, Sultanyar was killed as a martyr. He was buried there in the year 1071 A.H. (1661).

A mausoleum was erected on his tomb and, through the influence of his father Alayarkhan, his brother Asfandiyar and other relatives serving in the Moghal empire, a farman from the emperor Muhamed Shah was issued for the maintenance of the mausoleum and a grant of fifty bighas of land in the Haveli paragnas of Broach of Subah Ahmedabad for the livelihood of sajjadas was made.

This farman in origin is discovered recently and its text is legible and is in good condition. During that period it was customary to re-issue farmans for the progeny and in this way that farman was re-issued in the reign of Farrukhsiyar to Muhamed Karim, grandson of Sultanyar on the 21st Safar, 1129 A.H., and was again renewed on the 16th Safar, 1139 A.H. to Muhamed Jafar. After his death it was granted to Muhamed Attaullah on the 11th Zilqad, 1139. After the last assignee Muhamed Attaullah, the emperor Muhamed Shah granted the farman to the effect that the rights and privileges of the said land would be enjoyed perpetually by the family members of Sultanyar.

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Arakan in the pre-Mughal History of Bengal.

By A. B. M. HABIBULLAH.

The history of south-eastern Bengal in the Mughal period is mainly an account of the Portuguese and Mug depredations on the coastal districts from Sandip to Hijli. Their piratical raids seem to commence almost suddenly at the opening of the seventeenth century. It is during the governorship of Raja Mansingh, in 1601, that we first hear of the Arakanese, in alliance with the Bhuiyas of Bhusna and Sripur, making raids on Satgaon, against which an expedition was sent.³ During Islam Khan's governorship (1606-1613) occurred the first Arakanese invasion of Bhuluah.⁴ Their hostile operations on the Mughal districts roughly coincide with the final destruction of the Bhuiyas of Bhati, particularly those of Sripur, Bakla and Bhushna.⁵ From the determined and persistent nature of their subsequent attacks it seems that the Arakanese, then led by their ambitious king Meng-ra-dzyagyi, had inherited from the Afghans and then from the Bhuiyas, the hostility to the Mughals. The final conquest of Chittagong in 1666 may thus be regarded as the conclusion of the operations which commenced with Daud Kararani's final defeat near Rajmahal.

¹ Mirate Ahmedi, page 247.

² Imperial Gazetteer, Volume III, page 113.

³ Akbar Nama, tr. iii, p. 1235.

⁴ Baharistan-i-Ghaibi, tr. i, p. 329.

⁵ It was sometimes between 1601 and 1603 that Mansingh, after his battle with Osman at Sherpur Atiya, proceeded against the Bhuiyas and occupied their territories. Bhushna had been already occupied by 1596; after 1601 Kedar Rai of Sripur was killed and Sandip occupied; Bakla was reduced by Islam Khan, *AN.*, iii, p. 1235; *BG.*, i, p. 131.

In any case Arakan figures in the Muslim chronicles only from after the Mughal conquest of Bengal although her contact with Muslim Bengal commenced nearly two centuries earlier. This contact appears to have turned on the possession of Chittagong, the undoubted record of whose occupation by Bengal in the medieval period—if we exclude Ibn Battuta's *Sudkawan*¹ as referring to Satgaon—is to be found in a coin of Danujmardan, dated 1417.² The chronicles of Arakan throw little light on the process by which Bengal acquired control of the port. Its conquest must evidently have preceded Danujmardan's usurpation of power which was much too short-lived to enable him to make fresh territorial acquisitions. Unless we can ascribe it to an unrecorded military advance on the part of Sikandar, it may be supposed to have had some connection—at present impossible to elucidate—with an invasion of Arakanese territory by the king of Ava some time towards the end of Azam's reign (1391–1410). Being ousted from his throne the Arakanese king Meng-tsaumum (Naramaikhlā) fled, in 1406 or 1407, to Bengal and took refuge with the king of Gaur who had then his capital at Sonargaon. He was honourably received and stayed there, it is said, twenty-four years during which he rendered useful service to the king and was instrumental in repelling a foreign attack. Having thus pleased his host he obtained a promise to aid him with a military force to regain his throne. This force was supplied to him under the command of one named Wali Khan who, however, on reaching Arakan, treacherously seized and kept him a prisoner. Meng with difficulty escaped from confinement, repaired to Gaur and obtained another force. Wali Khan was subsequently punished and the fugitive king eventually reinstated on his throne.³ His reinstatement was conditional on his continuance as a tributary vassal of Gaur.

The account does not name the king of Gaur, but during the twenty-four years of his sojourn he must have lived through the reigns of more than one king. In 1410 Ghiyasuddin Azam's reign terminated and was followed by a period of Hindu predominance culminating, as is well known, in the accession of Ganesh himself in 1417. The king who ultimately gave the Arakanese fugitive material help in 1430 could thus be no other than Jalaluddin Muhammad. The occupation of Chittagong, however, does not appear to have coincided with Meng's reinstatement but, as is proved by the Chatgaon coins of Danujmardan, Mahendra and Jalaluddin and, as has been remarked above, must have taken place earlier than 1417. In all probability it was already in the possession of Bengal when in the year 1406, the Chinese interpreter, Ma-huan, accompanying emperor Yung-lo's military mission, landed at Cheh-ti-gon, on his way to the kingdom of Bang-ko-la (Bangala) *via* Sona-urh-kong (Sonargaon).⁴

The Arakanese chronicle at any rate makes it clear that by the year 1430 the kingdom of Arakan became tributary to Bengal. The Muslim allies of Meng settled at the new capital and built what is known as the Sandikhan mosque. Whether the vassalage was carried out in a concrete manner for any length of time after Meng's death in 1434 is doubtful, but an increase of Bengali Muslim influence from that date is undoubtedly noticeable in Arakanese life. The vassalage was carried out certainly in spirit if not in any material form. Meng's successor Mengkhri (1434–1459) started the tradition of adopting, in addition to his Buddhist titles, a purely Muslim proper name and is accordingly known in the chronicles as Ali Shah. His successor Basaupyu (1459–82) gave himself the curious Muslim name of Kalima Shah. This practice was continued in the sixteenth century also and we have Gadzabadi or Gajapati (1523–31) calling himself Iliyas Shah, and Meng-beng (1531–53), Zabauk Shah, apparently a misreading either for Mubarak or Barbak. The names of Sikandar, Salim and Husain were adopted by the next three kings, Meng-phalaung, (1571–93), Meng-ra-dzagyī (1593–1601) and Meng-khamaung (1612–22).

¹ Those who identify *Sudkawan* with Chittagong will, however, find support in the statement of Shihabuddin Talish-Sarkar, *Studies*, p. 122—that Fakhruddin fully conquered Chittagong and connected it with Chandpur on the Meghna by a raised highway.

² Bhattasali, *Coins and Chronology*, p. 119.

³ Phayre: *JASB.*, 1844, part I, p. 45; Harvey, *History of Burma*, p. 139.

⁴ *JRAS.*, 1895, p. 529.

For the next two kings, Narapadigyi (1638-45) and Thrithudamma (1622-38) no Muslim titles are assigned by the chronicle but their coins contain unreadable words in Persian letters which undoubtedly were designed to represent their Muslim appellations.¹ Evidently their knowledge of Muslim names was confined to those of the Sultans of Bengal. A more concrete expression of Arakan's cultural vassalage was given also by Meng-khri. Coins which began to be issued about this time as commemorative pieces of coronations and whose use was most probably inspired by Bengal were inscribed with the full Arabic legend and title of the Gaur Sultans to the exclusion even of Burmese or Buddhist names. Indeed, so perfect was the copy to the point, even of reproducing the *Kalima* and the invocatory phrases of the Gaur coins that Phayre, who, in the last century, brought for the first time a series of these remarkable coins to light, was inclined to doubt their ascription to Arakan.² The earliest of the series belongs to Ali Shah and served as a model for his successors. Only two other coins of this type have so far been discovered, those belonging to Gadzabadi (Iliyas Shah) and Meng-phalaung (Sikandar), but considering the wide interval between their dates it is permissible to expect similar issues for other kings also. Bengal's influence was not confined to coins and royal titles only. From the end of the sixteenth century, when the writings of the Bengal poets, Daulat Kazi and Alaul, begin to supply a good deal of information concerning Arakan, a large number of offices in the court and the government appear to have been held by Bengali Muslims. It is to the patronage extended by the Arakanese court that we owe some of the notable Bengali works of the medieval period.³

In these instances of Bengal's influence one cannot, however, read anything like proofs of Arakan's continued political subjection. How long and in what form Meng-tsau-mum's vassalage was given expression in detail will remain a problem. Nor was Bengal, after Jalaluddin's death, in a position to demand its fulfilment. A weakening of her hold on the south-eastern districts, on the contrary, is indicated by the absence from the coins of the mint-names of Muazzamabad and also of Chatgaon. The Arakanese chronicle, on the other hand, suggests that not only was the vassalage repudiated but Meng-khri adopted an aggressive policy towards Bengal's possessions on his border and occupied Ramu, a name applied in the sixteenth century to the Chittagong country as a whole.⁴ It certainly indicated a considerable territorial advance which facilitated the conquest of the town itself by the next king Basaupyu. This aggression did not go unresisted, for Bengal regained her military energy from the end of Mahmud's reign and Barbak succeeded in recovering a number of frontier tracts. The inscription of Rasti Khan found in the tomb of Alaul, dated 1473-4,⁵ is perhaps a proof of its recovery from the Arakanese.

Bengal's hold on the Chittagong area, however, was not destined to be permanent. In 1512 the Tipperah king appeared on the scene and occupied the town, possibly from the Muslims,⁶ but by 1517, the Arakanese had reconquered it. According to the Rajmala, its loss was due to Husain's preoccupations in his war with Tipperah, a statement which, if true, would suggest that the Tipperah occupation in 1512 was followed by its recovery by the Muslims. This second Arakanese advance led to the launching of a general offensive against Arakan under the command of prince Nusrat. The evidence gathered from the writings of the poets Kavindra Parameswar and Srikanar Nandi⁷ as well as the local Muslim traditions of Chittagong⁸ prove beyond doubt that the Arakanese were driven out of the area. The statement of De Barros that when Joao di Silveira landed at Chittagong in 1517,

¹ *Int. Numismata Orientalia*, 1882, p. 7; 26-7.

² *Idem*.

³ For details, see Huq: *Arakan Rajshabdhay Bangla Shahitya*, p. 10.

⁴ Harvey, *op. cit.*, p. 140; *Camb. Hist.*, iv, p. 477; For Ramu, see Dasgupta: *Bengal in the sixteenth century*.

⁵ *JBORS.*, 1918, p. 181.

⁶ *JASB.*, 1850, p. 543. Rai Chaichag, the Tipperah general, is said to have expelled the Gaur garrison.

⁷ Sen: *Bangabhasha O Shahitya*, pp. 147-8, 153-4.

⁸ Hamidullah: *Ahadiisul Khwanin*, quoted in Blochmann, *JASB.*, 1872, pp. 336-7.

the port belonged to 'king of Bengal and Arakan was a vassal of the Bengal King'¹ may refer to the result of Nusrat's campaign. The port was certainly in Muslim occupation in 1528 when Martin Juarde landed there and was imprisoned by the local Muslim governor.² From 1528 till at least Sher Shah's conquest of Gaur it remained under Bengal as is proved by the Portuguese accounts detailing the proceedings of the various Portuguese trading and military missions that were sent to negotiate with Ghiyasuddin Mahmud at Gaur and which eventually acquired the Chittagong customs and trading rights in return of their military assistance against Sher Khan.³ The same account is responsible for the additional information that after his final occupation of Gaur Sher sent one of his officers, 'Nogazil' for taking over the Chittagong administration from Mahmud's governor, Khuda Baksh Khan.⁴ About the year 1545, however, during the uncertainty consequent upon Sher Shah's death, Arakan again commenced aggressions. Meng-beng (1531-53) is said to have retained his hold on Chittagong, a statement that can, in view of the evidences referred to above, only mean its occupation, possibly during the rule of the Sur dynasty.⁵ Chittagong does not again appear in Muslim coins or chronicles till its conquest by Shaista Khan. In spite of its description in the *Ain*⁶ as a *sarkar* in the Bengal *Subah*, the Mughals, as was remarked by Blochmann, are not known to have obtained any footing east and south of the Fenny. It is hardly possible to accept Banerji's statement that Muhammad Shah Sur conquered Arakan in 1555.⁷ It not only conflicts with the known facts respecting Bengal's holds in the south-east at this period but is exclusively based on a clearly wrong reading by Wright of a mint-name on one of Muhammad's coins.⁸

It was nearly a century since Arakan commenced hostile operations against Bengal's possessions south of the Fenny. The Husain Shahi reconquest had been short-lived and by the time the Afghan dynasty came to power her frontiers had again been pushed northwards. We are indebted to Shihabuddin Talish for the information that 'towards the end of the Bengal kings, when Chatgaon again fell into the hands of the Mugs, they did not leave a bird in the air or a beast on the land from Chatgaon to Jagdia, the frontier of Bengal'.⁹ They closed all communications, destroyed Fakhruddin's causeway, and increased the desolation in the intervening space which became impassable on account of the thick jungles. This probably marked a new phase in their operations and was intended to raise a barrier against the Bengalis. Arakan utilized the resulting security in extending her military power on the south and north. With the help of the Portuguese whom Mahmud had permitted to trade in Chittagong and who had since been taken under Arakanese protection and allowed to build a fortified post in Dianga, Arakan now prepared to bring in the greatest period in her history. A military expedition sent under Di Britto resulted in the conquest of the Pegu kingdom.¹⁰ By 1569, Sandip, on the mouth of the Meghna, passed under her suzerainty. Ceaser Frederick's 'King of Bengal' to whom both the governor of Chatigaon and the king of Sandip—'a very good man of a Moor king'—were subject, could only refer to the king Meng-

¹ Cited in Campos, *History of the Portuguese in Bengal*, p. 28, note and p. 30.

² De Barros, abstracted in Campos, *op. cit.*, p. 31.

³ For details, see Campos, *op. cit.*, pp. 31-40.

⁴ Castanheda : *Historia*, cited in Campos, *op. cit.*, p. 42. Continuance of Muslim hold on the town up to at least 1543 is suggested by the Rajmala, according to which, following Bijoya Manikya's abortive attempt to conquer the town, it was occupied by the Muslims. *Bengal, Past and Present*, 1929, p. 38.

⁵ Harvey, *op. cit.*, p. 140. The weakness of Bengal at this period is illustrated by the daring invasion of Sonargaon by the Tipperah king, between 1543 and 1559. See *Bengal, Past and Present*, *loc. cit.*

⁶ Jarrett's tr., ii, p. 139.

⁷ *Banglar Itihas*, ii, p. 356.

⁸ *Ind. Mus. Cat. of Muslim coins*, ii, p. 180, No. 229. The marginal legend was read as *zarb arkan*, but it is clearly *rikab*. What has been read as *A* of Arakan is obviously the dot of *B* of *zarb* and the supposed dot of *N* appears below what should then be read as *B* of *rikab*. Besides, the Muslims never used the anglicized term Arakan; they always called it Rakhang, the nearest approximation to the true Burmese Rakhanga. See Hug, *op. cit.*, p. 3; see also *JASB.*, 1873, p. 234, note.

⁹ *Sarkar, op. cit.*, p. 122.

¹⁰ Harvey, *op. cit.*, p. 141.

ra-dzagyī of Arakan,¹ who, in his letter granting facilities to the Portuguese missionaries, called himself 'king of Bengala and of Tipperah',² doubtless by virtue of his hold on parts of Tipperah and Chittagong. From the latter place were now (1601) issued trilingual coins, in Arabic, Burmese, and Devnagari with the king's Burmese and Muslim titles, a clear declaration of his sovereignty over the Muslims and Hindus of the area.³ During the early years of the Mughal conquest which corresponded with the reign of Meng-phalaung (1571-93), some sort of collaboration with the Bhuiyas of Bhati must have come into force and the island of Sandip was taken possession of by the Bhuiya of Sripur from whom it was wrested by Mansingh's forces sometime in 1601. The second half of the sixteenth century, at any rate, does not afford instances of active Arakanese hostility to Bengal. The Mughals by replacing the Bengal kings also inherited their enmity with Arakan and the latter now became friendly with the anti-Mughal elements. The forcible occupation of Sandip by the Portuguese freebooter Carvalho in 1602 occasioned a demonstration of this alliance and in the expedition against him and, in fact, in subsequent actions against the Portuguese, Arakan was assisted by a naval contingent from Sripur.⁴ During Islam Khan's operations against the Zamindars of Bhati not less than three Arakanese invasions occurred details of which are, however, not on record, but which were most probably meant to create diversions in favour of the hard-pressed Bhuiyas. The attack in 1615, directed against the newly established Mughal outpost of Bhuluah, cannot be isolated from its above-mentioned political contexts. It was a determined and well-planned advance and was reinforced by the Portuguese under Carvalho who brought up the combined Arakanese-Portuguese fleet to co-operate with the land forces. The Mughal commandant was compelled to fall back and Bhuluah was plundered. Portuguese treachery, however, killed the enterprise and the Arakanese king returned a fugitive to Chittagong.⁵ The Bhuiyas on their part rendered their ally such help as were possible for them against the Portuguese of Sandip who had lately become a source of great danger to Arakan. It was a desire to please the Arakanese king that led Pratapaditya to treacherously seize and execute Carvalho when the latter sought his help in 1607.⁶

It was Portuguese treachery and high-handedness that seem to have been responsible for this alliance failing to bear its full weight on the Mughals. From 1602 Arakan was kept fully occupied by the Tibau brothers who occupied Sandip and for nearly twelve years menaced both Bhati and Arakan. They wrested the Pegu kingdom and threatened to take Mrohaung itself. So sorely was Arakan tried by Gonsalvos that Anaporan (Anik Frank of the Muslim writer), the governor of Chittagong, appealed to Islam Khan in 1610 and offered to accept Mughal vassalage for Sandip in return for help against the pirates.⁷ It was only after great military exertions supported by treachery that Meng-khamaung, assisted by the timely arrival of the Dutch fleet, was able to deal a final blow to them in 1616.⁸ Sandip was finally occupied and the remnants of the Portuguese freebooters were settled in Chittagong and Dianga. The Bhuiyas meanwhile had all, one by one, been crushed by the Mughals. By the year 1612 Sripur, Khizrpur, Bhuluah, Fathabad and Bakla were all reduced and converted into Mughal military outposts. Before Islam Khan moved on his final expedition against the Afghan chief Osman in 1613,

¹ Purchas his pilgrims, x, p. 137.

² Du Jarric, cited in Campos, *op. cit.*, p. 78. This finds confirmation in the Rajmala according to which, following an invasion of Chittagong and Ramu by King Amara Manikya in 1585, Tipperah itself was overrun and conquered by Sikandar Shah of Arakan in 1586. *Bengal, Past and Present*, 1929, p. 141. For Ralph Fitch's reference to wars between Arakan and Tipperah, see *JASB.*, 1873, p. 234, note.

³ *Int. Num. Orient.*, *op. cit.*, pp. 5-6. These coins were issued by the governor, Karamkari, who, according to Talish, stamped his own name on them.

⁴ Campos, *op. cit.*, p. 69.

⁵ *BG.*, tr. i, p. 329. This is stated to have been the fourth invasion since Islam's assumption of office; Campos, pp. 86-7.

⁶ Campos, *op. cit.*, p. 73.

⁷ *BG.*, i, p. 89.

⁸ Campos, *op. cit.*, p. 155. For details of the operations against the Portuguese, see *ibid.*, pp. 67-87.

Pratapaditya was crushed¹ and all resistance ceased in the Bhati. With the final destruction of Osman in North Tipperah the Afghan phase of the Mughal conquest thus came to an end.

The occupation of Sandip and the employment of the Portuguese corsairs, however, meant a vast accession of strength to the Arakanese who now determined to continue the war—if war it may be called—with the Mughals. A new technique of operations was now introduced, the technique of sea-borne lightning raids on the coastal areas. With the bold and unscrupulous Portuguese seamen co-operating in their well-built ships with the land forces, Arakanese military power now attained its greatest height. After the failure of the invasion in 1616² they appear to have realized the difficulty of land operations against the vast resources of the Mughals and changed over to the Portuguese methods of piracy. With large vessels carrying cannons and troops in swift-moving boats they now extended their raids not only on the coastal districts but, as is well known, along the Meghna far into the interior. The frightful proportion which these combined Mug-Feringhee raids assumed and against which successive Mughal governors remained powerless, is well known. The attempts of Quasim Khan (1613–17) and Ibrahim (1617–21) to conquer Chittagong and put an end to the raids, could not succeed against the strong defences put up by the Arakanese near Sitakund and the difficulties of marching through the trackless forests.³ Fear of the Arakanese fleet hampering the progress of his army proceeding along the coastal route led Ibrahim to conquer Tipperah in order to avoid travelling by the sea. The terror which the Mug boats inspired is well illustrated by the amusing incident, recorded by Talish, of the Mughal *Mir Bahr* who, while cruising with his fleet on the coastal waters espied a dozen Mug boats and, forgetting the right Bengali words for turning back, in his fright kept shouting for broth to be immediately given to him.⁴ The Mug-Feringhee combination proved almost invincible and diplomacy had to be resorted to in order to separate them before military measures could be expected to have any permanent effect. In 1638, Islam Khan II gained a temporary diplomatic success when the Arakanese governor, Mutuk Rai, because of his personal quarrel with Thirithudamma, offered to hold Chittagong as a Mughal vassal.⁵ This, however, remained only a paper arrangement, and did not affect the continuance of Mug raids which, on the contrary, appear to have been intensified with renewed vigour during Shuja and Mir Jumla's administration. Shaista Khan's final occupation of Chittagong in 1666, which put an end to these devastating operations, was, as is well known, the result more of his diplomacy by which he won over the Portuguese, than of his military might.

¹ *BG.*, i, pp. 136–138.

² *BG.*, i, p. 383.

³ Details of these attempts are given only in *BG.*, i, p. 404, ii, p. 632.

⁴ *JASB.*, 1907, p. 423.

⁵ *Alamgirnamah*, tr. quoted in *JASB.*, 1907, p. 410 note. This date coincides with the cessation of Arakanese coins from Chittagong, perhaps an indication of Mutuk's proposed vassalage. For the Arakanese name of the governor, see *JASB.*, 1846, pp. 234ff.

Early Buddhist Brothers and Sisters.

By DR. B. C. LAW.

The early history of Buddhism, like that of Jainism or Christianity, centres round a supreme human personality with a galaxy of devoted disciples. In the case of Buddhism, the supreme personality was Gautama the Buddha, with his inner circle of followers, male and female. Amongst his lay worshippers and supporters, the upāsakas and upāsikās, there were many who became prominent in the public eye, although their relationship with the Master, in so far at least as their modes and habits of life were concerned, was not so intimate as that of those men and women who had renounced the world and were admitted into the religious order. In the present article I shall confine my observations to the general historical position of the early Buddhist brothers and sisters, the term 'early' being applied here precisely in the sense in which the late lamented Mrs. Rhys Davids used it in her English metrical translation of the *Thera-Therīgāthā*.

The early Buddhist brothers and sisters belonged to a distinct religious Order and school of thought in respect of which the position of the Buddha was that of a *Sanḅhi* (founder of an Order), *Gaṇi* (leader of a following), and *Gaṇācariyo* (teacher of a band of followers), the epithets usually applied to the contemporary founders of different Orders and leaders of different schools of thought.¹ These Orders and schools were mainly represented by the Brāhmaṇas and Śramaṇas, all of whom were ascetics or recluses leading the life of wanderers.² Although they are broadly distinguished in the Pāli Nikāyas as Brāhmaṇas and Śramaṇas, one is to understand that the former admitted into their Orders none but those who belonged to Brahmin families or were at least of the twice-born castes, while the latter kept the door of admission open to recruits from all social grades.³ So far as the other Orders were concerned, women, too, were equally entitled to seek admission into them. In other words, the institution of the Śramaṇas (recluses) was based upon the principle of democracy.

The religious Order founded by the Buddha was that of the Śramaṇas in the above sense, and precisely like the Nirgranthas (Jainas) and others, the early Buddhist brothers passed as *puttas* or sons of the Master. They became known to the members of other Orders as *Śākyaputtiya Samaṇas*,⁴ i.e. recluses belonging to the Order founded by a scion of the Śākya race of Kapilavastu situated in the Nepalese Tarai. They represented themselves as *Buddhaputtā* or sons of the Buddha. In the phraseology of outsiders, they are sometimes simply called Śākyas,⁵ while in the later Indian inscriptions they have been introduced as *Śākyabhikkhus* and in case of sisters, as *Śākyabhikkhunīs*. The Buddha himself came to be revered as Śākyamuni,⁶ and also as Śākyasiṃha.

The Vinaya Mahāvagga and Cullavagga seek to present a connected ecclesiastical history of the early Buddhists from the Buddhahood of the Master down to the session of the Second Buddhist Council at Vaiśālī. It shows that the nucleus of the Saṅgha was formed after the conversion of the first group of five disciples—the *pañcavaggiyas*—at the Deer Park of Isipatana (Sarnath), near the city of Benares. This was rapidly followed by the conversion of Yasa, the banker's son, and his fifty-four comrades. No formality was yet needed to be gone through. Just as Jesus of Nazareth addressed his first disciples five centuries later, so also did Gautama the Buddha, who addressed his first sixty disciples thus: 'Come ye! (*ehi, etha*), the

¹ *Dīgha*, I, p. 48; *Suttanipāta*, p. 91.

² Rhys Davids, *Buddhist India*, pp. 141ff.

³ Barua, *A History of Pre-Buddhist Indian Philosophy*, pp. 191ff.; B. C. Law, *Historical Gleanings*, p. 12.

⁴ *Buddhist India*, p. 143.

⁵ *Dīvyāvadāna*, p. 420.

⁶ Rummindei Pillar Inscription of Aśoka; *Barhut Inscriptions* (Barua and Sinha), Nos. 141 and 158.

Law is well expounded, lead the holy life to make an end of all pain.' The attainment of sainthood and salvation as implied by the term *arahatta* was not at all a remote ideal; it was attained and attainable here and now where human nature was mature for the reception of the truth and the acceptance of the norm (*dhamma*). There were just sixty Arahants at the time, we are told, besides himself, when the newly Enlightened One addressed his worthy followers in these inspiring words: 'Freed am I, O mendicants, from all nooses, whether divine or human, and you too are thus freed. Go ye forth, O mendicants, and wander about for the good of the many, for the happiness of the many, out of compassion for the world, for the sake of the advantage, good and happiness of gods and men. Go not two by the same road. Address, O mendicants, the doctrine which is beneficial in the beginning, beneficial in the middle, beneficial in the end, pregnant with meaning, well-worded, complete in form, and reveals the pure life of holiness. There are individuals who, in spite of their little proneness to sin, fall away from the truth and norm for want of preaching, but may be the future expounders of the Law, and I, too, will proceed to the Senānigāma at Uruvelā for preaching the Law.'¹

Thus the Enlightened One and his first disciples enthusiastically started the work of preaching the message under the fervour of a new-born faith. They stayed during the rainy season at the same Deer Park, during which, we are told, the mendicants brought to the Master ardent applicants for initiation and ordination from various quarters and various localities (*nānādisā nānājanapadā*), which proved to be a tedious job for them as well as for the applicants. This impelled the Master to think and, risen up from trance at dusk, he called his followers in his presence and addressed them, saying, 'I enjoin, O Brethren! Henceforth do you yourselves initiate and ordain (persons as you find yourselves) in this or that quarter, in this or that locality. And thus are they to be initiated and ordained: Causing them, at first to be shaven clean of hair and beard, clad in yellow garments, with the upper robe donned on one shoulder, making them bow down at the feet of the brethren and sit on their heels with joined hands, say unto them, "Thus do thou declare the faith: I recourse to the Enlightened One as my Refuge, I recourse to the Doctrine as my Refuge, I recourse to the Order as my Refuge. For the second time and for the third time do I declare the same".' The rule thus introduced and enforced was the same for initiation (*pabbajjā*) and ordination (*upasampadā*).

At the end of the rainy season, the Master again addressed the mendicants in these words: 'By me verily, O Brethren, hath the highest form of salvation been attained and realized through the rightly directed mind, through the rightly directed effort; you, too, O Brethren, attain and realize it thereby.'²

After this they parted company for the time being and each went his way to preach salvation. The Master himself wended his way back to Uruvelā where he ordained in the first instance a band of thirty comrades. But the real triumph was not achieved until he succeeded in converting the three Jāṭila brothers with their thousand followers. With all of them he came down to Rājagṛha, the capital of Magadha, where king Bimbisāra and all the citizens found that it should be so. Twelve millions of citizens of Magadha assembled in the capital, to whom the erstwhile Jāṭila leaders bore their personal testimony to the Master's powers and faithfully

¹ *Vinaya Piṭaka*, I, pp. 20-21:

Atha kho bhagavā bhikkhū āmantesi: muttāham bhikkhave sabbapāsehi ye dībbā ye ca mānusa. Tumhe pi bhikkhave muttā sabbapāsehi ye dībbā ye ca mānusa. Caratha bhikkhave cārikaṃ bahujanahitāya bahujanasukhāya lokānukampāya atthāya hitāya sukhāya devamanussānaṃ. Mā ekena dve agamītha. Desetha bhikkhave dhammaṃ ādikalyāṇaṃ majjhakalyāṇaṃ pariyośānakalyāṇaṃ sālhaṃ savyañjanaṃ kevalaparipuṇṇaṃ parisuddhaṃ brahmacariyaṃ pakāsetha. Santi sattā appajakkhajātikā assavanatā dhammassa parihāyanti, bhavissanti dhammassa aññātāro. Ahaṃ pi bhikkhave yena Uruvelā yena Senānigāmo ten'upasaṅkamissāmi dhammadesanāyā'ti.

² *Vinaya Piṭaka*, I, p. 22:

Atha kho bhagavā vassaṃ vuttho bhikkhū āmantesi: mayhaṃ kho bhikkhave yoniso-manasikārā yonisosammappadhānā anuttarā vimutti anuppatā anuttarā vimutti sacchikatā. Tumhe pi bhikkhave yoniso-manasikārā yonisosammappadhānā anuttaraṃ vimuttiṃ anupapūṇātha anuttaraṃ vimuttiṃ sacchikarothā'ti.

stated how the change came over them. The Master preached to them a discourse embracing the topics suited to their temperament and holding before them the stern realities of life and the means of escape therefrom. Their hearts were so ripe for the reception of the truth that eleven millions of them, headed by king Bimbisāra, acquired at that very sitting the eye of clear insight into the Law, while one million only declared their *upāsakahood*, i.e. their position as mere lay worshippers.

The next great triumph was achieved when Sāriputta and Mahā-Moggallāna of the school of Sañjaya were converted to the new faith together with the half of the other followers of the same famous wandering teacher through the instrumentality of Assaji (Aśvajit) who belonged to the first band of five disciples. In presenting the Buddha's doctrine to Sāriputta, the Venerable Assaji (Aśvajit) gave a terse but significant expression to the fundamental axiom of Buddhist thought.

This amazing initial success of his preaching mission in Magadha produced a hubbub among the citizens of Rājagṛha, who expressed their sentiment in the following couplet:

*'Āgato kho mahāsamaṇo Magadhānaṃ Giribbaḥaṃ,
sabbe Sañjaye netvāna, kaṃ su dāni nayissatī ti.'*

'Verily the great recluse has come to Magadhan Girivraja, lo! carrying all the Sañjayakas away, whom will he carry now?'¹

The Buddha's first visit to Kapilavastu was a notable event as it was followed by the conversion of all of the Śākyaans to the new faith and the ordination of Siddhārtha's son Rāhula and half-brother Nanda, as well as of such gifted Śākya youths as Bhaddiya, Anuruddha, Ānanda, Bhagu, Kimbila, and Devadatta who came along with their barber attendant Upālī. They requested the Master to initiate the barber Upālī first and others afterwards so that after paying due homage to their attendant they might get rid of their racial pride.²

The Buddha's visit to Kapilavastu was all the more important for the reason that the Śākya ladies headed by Siddhārtha's aunt, step and foster-mother Mahāpajāpati Gotamī and including his wife Yasodharā left the city in a body in right earnest and travelled on foot as far as Vaiśālī to seek admission into the *Saṅgha*. Ānanda pleaded their cause and the Master granted the prayer. His reluctance caused by fear lest the duration of the Good Faith be shortened, if women were admitted into it, was not without its effect. The sisters were 'made juniors' (to use the phrase of Mrs. Rhys Davids) to the brothers. However, with their admission, there grew up a sisterhood, the *Saṅgha* of the bhikkhunīs side by side with that of the bhikkhus, and both existed and flourished through centuries that followed. Thereafter the Buddhist community came to be composed of the brothers, the sisters, and the lay worshippers, male and female.

The admission of women into the Śākya Order was no novelty in the history of the religions of ancient India, inasmuch as women had not only gained admission into the various earlier and contemporary religious Orders of the Hermits (*Tāpasas*), the Wanderers (*Paribbājakas*), the Ājīvikas and the Jains (*Niggaṇṭhas*) but also enjoyed an equal status with men. Here the novelty consisted rather in certain restrictions placed on the sisters, which went to make them subordinate to the brothers in monastic life. The result was that the sisters were found to be the *antevāsīnīs* or pupils of the elderly brothers or sisters but no brother was known to have been the *antevāsī* of any sister, however spiritually advanced she might be.

The admission into the Order of boys like Rāhula, who were below the age of twenty, necessitated the creation of a rank of the *Sāmaṇeras* (novices), and that of girls under that age to that of the *Sāmaṇerīs*, and the *Sāmaṇeras* and *Sāmaṇerīs* came to be treated as probationers (*sikkhamānas*, *sikkhamānās*) for ordination under a competent brother or sister.

The dedication of the Venuvana (Bamboo grove) to the Master and his followers by king Bimbisāra led to the foundation of the first Buddhist Vihāra in India which was followed in quick succession and in other parts of the Buddhist Midland as well

¹ *Vinaya Piṭaka*, I, p. 43.

² *Ibid.*, II, pp. 182-183.

by numerous other *vihāras* or *ārāmas* that served as permanent places of retreat, fixed abodes or monasteries for the brothers and sisters and the probationers under them. The ruling princes and the rich bankers vied with one another in erecting and endowing them.

There was yet no shrine attached to those *vihāras* to serve as a *sanctum sanctorum* or fixed place of worship. The lay worshippers who were in the rôle of devotees needed a *cāitya* or shrine for the purpose of worship of a tangible substitute in the absence of the Master, as we are told in the *Kāliṅgabodhi Jātaka*, and the first shrine suggested and introduced within the precincts of a *vihāra* was a Bo-tree grown from the graft or seed or sapling from the Bo-tree under which the Master attained to Buddhahood.¹ This was followed since the Master's demise by other objects used by the Master and by the *stūpas* or relic-shrines,² all redolent with personal associations of the Master and memories of his living presence on earth; and long afterwards, by the images that were the creation of imaginative art and emotional religious sentiment. With the introduction of images came the temples into existence, and Buddhism became thoroughly Hinduized.³

The number of followers and lay worshippers multiplied year after year during the forty-five years of the Master's ministration and preaching career. The new centres of activity grew up in the countries around Magadha, although, on the whole, the movement remained confined to the Buddhist Midland. Many new *vihāras* were erected and dedicated to the fraternity of all times and quarters. The rules and formalities increased, the laws were formulated and enforced and amended from time to time, many forms of speech and conventions were introduced, all having a restrictive effect on the conduct of his followers. And yet nothing was enacted or promulgated in advance. The Master proceeded in the light of changing circumstances. As occasions demanded, the rules were either suggested by him or by others, but before they were enforced or held binding on the fraternity, they needed his formal approval. Thus behind them all was his personal authority; he was the source of the Law and the person to set the seal of supreme authority. The guiding principles were being enunciated and clearly held before his followers, and the ideals and standards of conduct were set up. The disciplinary rules were being viewed from the first only as a means to an end and not as ends in themselves. He had all along the dread of the mischief of the Law. So, in spite of the fact that a fairly large body of rules, conventions and forms of procedure grew up along with a *Pātimokkha* code with penal sections laid down in it, he did not forget to authorize his followers on the eve of his demise to dispense with all the minor and lesser rules of conduct, if they so desired or found expedient.

One distinctive feature of the organization launched forth by the Buddha was that it was designed to be an autonomous body guided by the principles and ideals, and the rules and conventions, in short, by the traditions of the Elect. Thus did he relinquish the right of nominating a successor chosen from among his followers.

Indeed, from the beginning to the end the position taken up by the Buddha with regard to the fraternity was at first sight anomalous and irreconcilable. As he expressly stated, his position in respect of his disciples and followers was no more than that of a *pubbaṅgama* or pioneer—an inciter to holy life, an inspirer, a pathfinder or leader.⁴ He disclaimed either that he was the leader of the *Saṅgha* or that the *Saṅgha* waited for his leadership.⁵ At the same time, he was all along alive to his responsibility for the well-being and welfare of his followers, inasmuch as they joined him under his inspiration and persuasion. But how far was this feeling or mental attitude, wishful thinking or expressed opinion consistent with the authority actually exercised in ushering the disciplinary rules and penal laws into existence? How could he make it consistently possible that he was at one and the same time

¹ *Jātaka*, IV, pp. 228 foll.

² The *Peta* and *Vimāna-vatthus*, the *Thera-Therīgāthā* and the *Apadāna* are full of allusions to these objects of worship.

³ See Barua's *Gayā and Buddhagayā*, Vol. I, pp. 190f. for the history of the building of the Bodhgayā temple.

⁴ *Majjhima*, I, p. 16.

⁵ *Digha*, II, p. 100.

both in and out of it? Was he to be counted as a member of the fraternity or was he like a benevolent despot who was above the Law? Whatever may be the views expressed by him, did he not function *ipso facto* as an overwhelming and all-engulfing human personality? Amongst hundreds and thousands of his earnest followers, how many of them had the chance of getting self-expression or figured as originators of new thoughts? Even if, in point of fact, the early Buddhist tradition was the fruitful result of a corporate body of brothers and sisters, was it not the outcome of his sole and supreme injunctions as their teacher and leader?

These are some of the most important questions that demand satisfactory answers.

The account in the Vinaya Mahāvagga goes to show that the Buddha adhered to his own method of ordaining his followers, namely, by his imperious call, *Ehi, Etha*, 'Come Ye', without having recourse to the formal method gradually introduced by him and enforced in the case of others. Thus the early band of his followers passed as *ehi-pabbajjaka bhikkhū*.¹ There is no evidence on record to indicate that he had subsequently made any deviation from his old practice. If the affair of initiation or ordination conducted by him were a question of baptism (*sināna*), it was sought to be effected as a process of the inner purification of human nature (*antara sināna*).²

It was enjoined on his followers that they should and must, as a rule, meet together on the fourteenth or the fifteenth day of the lunar half month to recite the *Pātimokkha* (better, *Pārimokkha*) rules and test their unity, integrity and moral purity in the light thereof, but the Pāli and other canonical texts keep us entirely in the dark as to whether he himself had ever taken part in these periodical ecclesiastical functions. On the other hand, there is sufficient evidence to prove that he was vigilantly keeping watch over the affairs of his followers and their individual and collective interests and took the miscreants to task for their rectitude.

Nevertheless, the rôle assumed by the Buddha was that of a *maggadesaka*, i.e. of one to point out the way. Accordingly his constant exhortation to his followers was—*Tumhehi kiccā ātappaṃ, akkhātāro Tathāgata*.

'The duty on your part is to make the effort, the Truth-finders just point out the way.'

As the attainment of salvation lay in one's own hands and did not depend on the favour of others, one of his dying instructions to his personal attendant Ānanda was:

'Attadīpā viharatha, attasaraṇā, amaññāsaraṇā.'

'Dwell making yourselves your own island, making yourselves your own refuge, not making others your refuge.'

This was urged consistently with the truth previously expounded by him:

*Attā hi attano nātho, ko hi nātho paro siyā ? |
attanā hi sudantena nāthaṃ labhati dullabhaṃ ||
Attanā va kataṃ pāpaṃ, attajaṃ, attasambhavaṃ |
abhinīhāti dummedhaṃ vajiraṃ v'asmamayaṃ maṇiṃ ||*

'Self verily is the reliance of self, who else could be the reliance? Having trained oneself well indeed, one gets the reliance difficult otherwise to obtain. The sin committed by oneself, the sin that originates in or springs from oneself, that crushes the sinner of evil design as the diamond cuts a crystal gem.'

The way was shown by the Buddha, and his followers were to play well the part of the 'wayfarers'. This way [the *Magga, Upaniṣā* (*Upaniṣad*)] was the best conceivable way to Nirvāṇa but not to any worldly gain.

The total number of persons representing the male wayfarers in the Buddha's lifetime is not known. The Pāli Chronicles give the number of bhikkhus who were present at a conference shortly after the Buddha's demise as 700,000,³ which, however exaggerated, cannot be regarded as the total number of bhikkhus of the time since all of them were not able to attend the conference (*samāgama*). The

¹ *Vināya Piṭaka*, I, pp. 12-13.

² *Mahāvamsa*, Chap. 3, verse 4—*sattasatasahasāni*.

³ *Majjhima*, I, p. 39.

Apadāna,¹ on the other hand, mentions 18,000 as the total number of *bhikkhunis* headed by Yasodharā, who waited upon the Buddha. But this, too, cannot be treated as the total number of *bhikkhunis* of the time. The same authority speaks of 10,000 *bhikkhunis* headed by Yasovati,² of 18,000 *bhikkhunis* from Khattiya families headed by Yasavati,³ and of 84,000 *bhikkhunis* from Brahmin families.⁴ The Buddha was generally accompanied by 500 bhikkhus when he wandered about in the country, and only in a solitary instance he is said to have a company of 1,250 bhikkhus.⁵

The traditional figure denoting the total number of bhikkhus who assembled at the conference held before the Second Buddhist Council is 90,000.⁶ The Pāli Chronicles preserve a tradition according to which 60,000 bhikkhus belonging to the Theravāda sect resided in the Aśokārāma at Pāṭaliputra,⁷ while at a congregation held at Pāṭaliputra during the reign of Aśoka assembled 80 crores of bhikkhus, one hundred thousand of whom were Arahants, and 90 hundred thousand bhikkhunis, among whom one thousand were Arahants, all belonging to the Orthodox Church.⁸ We may leave out of account the overwhelming number of new converts made by the Buddhist missionaries sent to different places in India in Aśoka's time. No census was evidently taken and the population suggested is incredible. Even assuming that a very large number of persons, men and women, became wayfarers (to use the term popularized by Mrs. Rhys Davids) in the Master's lifetime, the question arises—how many of them did truly attain Arahantship, and how many among the Arhats themselves did come to self-expression or attain real distinction?

When the Buddha was found seated surrounded by his followers, he appeared to onlookers as the moon surrounded by a galaxy of stars (*tārāṇanaparivettḥito cando*). To his own disciples, he was the Lord of righteousness and the illuminator (*dhamma-rājā pabhaṅkaro*). If he were thus the true source of light like the sun, the rest of the luminaries were just the satellites. Such was indeed the view taken of the situation by a powerful section of later followers of the Buddha when they seriously doubted and challenged the infallibility of the Arahants.⁹

It is true that the disciples of the Buddha played the second fiddle or that they sought to merge their individuality in the overpowering personality of the Master. And yet it behoves us to inquire as to which part was actually played by them.

The *Etadaggavagga* of the *Anguttara Nikāya* offers us two lists, one of only 38 Theras and the other of only 13 Theris who were declared foremost by the Master himself in the rank of those noted for some special attainments.

Among the early Buddhist brothers and sisters, the pre-eminence of Añña-kondañña among the Theras and of Mahāpajāpati Gotamī among the Theris was historical. They were the first to recognize the intrinsic worth of the Good Faith and to display the moral courage of forsaking everything for it. With the conversion of one started the history of formation of the Buddhist brotherhood, just as with that of the other started the history of formation of the Buddhist sisterhood.

Sāriputta among the Theras and Khemā among the Theris attained pre-eminence as persons of great wisdom and understanding, with rare capacity to grasp and unveil the true significance of the Buddha's doctrine. But it would seem that Mahākaccāna surpassed them both in the power of elucidation and elaboration in prose of a point of the doctrine stated in brief, Vaṅgisa excelled all in the power of elucidation and elaboration in verse. Mahākotṭhita excelled others in grammatical analysis and logical way of understanding things. Puṇṇa Mantāniputta among the Theras and Dhammadinnā among the Theris attained pre-eminence by their ability to return satisfactory answers to the questions on any aspect of the doctrine. Kumāra Kassapa excelled others as a popular preacher. Ānanda's pre-eminence lay in his accurate information, and in his sharp memory and power of faithfully reproducing what he had heard or known.

¹ *Apadāna*, ii, p. 592:

*Aṭṭhārasa-sahasāni bhikkhunī Sakyasambhava
Yasodharī-pamukhāni sambuddham upasaṅkamum.*

² *Ibid.*, ii, p. 591.

³ *Ibid.*, ii, p. 597.

⁴ *Ibid.*, ii, p. 598.

⁵ *Dīgha*, i, p. 47—*aḍḍha-telasehi*.

⁶ *Mahāvamsa*, Chap. IV, v. 20—*navutisahasāni*.

⁷ *Ibid.*, Chap. V, v. 75.

⁸ *Ibid.*, Chap. V, vv. 186-187.

⁹ *Kathāvatthu*, I, 2.

Upāli among the Theras and Paṭācārā among the Therīs attained pre-eminence as repositories of the Vinaya tradition and specialists in the Vinaya lore.

Among the Theras, Mahākappaṇḍiya excelled in the art of instructing the brothers and Nandā in that of instructing the sisters, while Rādhā's distinction consisted in making others speak. Rāhula became an example before the learners.

Kaṅkhā-Revata among the Theras and Nandā among the Therīs ranked foremost as meditatives. Bāhiya Dāruciriya and Bhaddā Kaccānā were pre-eminent among those who excelled in quick perception of the truth. Anuruddha and Sakulā excelled in the possession of the divine eye, a psychical power to witness the rise and fall of beings according to their deeds and destinies. Sobhita and Bhaddā-kapilāni were singled out as the best of those gifted with the psychical power of re-collecting the past. Kolavisa Soṇa and Soṇā surpassed others in their energetic efforts. Mahāmoggallāna and Uppalavannā occupied the foremost rank among those who excelled in supernormal faculties of a higher kind, while Devadatta, as we are told in the Vinaya Cullavagga, in those of a lower order. Sāgata gained perfect mastery over the element of heat.

Vakkali and Sigālamātā were the most profound in their faith, while Nanda stood first as an example of those who were able to keep their senses well under their control.

Uruvela-Kassapa's pre-eminence was due to his great personality and Bhaddiya's prominence was due to his social status.

Mahākassapa set the highest example of the ascetic mode of life, while Magharāja and Kisā-Gotamī held the notable example of wearing a beggarly dress. Vakkula became prominent as the best living example of health and Upasena Vaṅgantaputta as that of charming nature. Kāludāyi came to represent the best type of a messenger. Pilindavaccha's prominence was ascribable to his power of inspiring the householders to lead a pious and virtuous life entitling them to a happy and glorious life in heaven hereafter.

Sivali figured as the exceptionally lucky person. Dabba Mallaputta made his mark as the arranger of seats and accommodations. Kuṇḍadhāna's great aptitude consisted in the wisdom of living on rations.

Thus the first-place-holders among the early Buddhist brothers and sisters may be reduced to the following few types:

1. Those historically important as pioneers.
2. Those as personalities.
3. Those as men of intelligence and understanding.
4. Those as mystics, contemplatives and miracle-workers.
5. Those as preachers and instructors.
6. Those as chanters.
7. Those as learners and probationers.
8. Those as inspirers and missionaries.
9. Those as ascetics.
10. Those as believers.
11. Those as intuitionists.
12. Those as self-controlled ones.
13. Those as exponents.
14. Those as popularizers.
15. Those as versifiers.
16. Those as messengers.
17. Those as rationers.
18. Those as household-managers.

The Theras and Therīs may be shown to have played the following parts in the history of the formulation of Buddha's words, the development of the early Buddhist literary tradition and the textual settings in the Canon:

- (1) That of the most interested listeners, memorizers and transmitters.
- (2) That of the most interested interrogators or interlocutors.

- (3) That of the capable elaborators, elucidators, expositors, expounders, analyzers, crystallizers and upholders.
- (4) That of the formulators, codifiers, instructors, disseminators, propounders, propagators, and popularizers.
- (5) That of the versifiers, composers, compilers, chanters and inspirers.
- (6) That of the standard-bearers and testifiers.

The part played by them as interested listeners, memorizers and transmitters was of no mean importance at that period of Indian history and civilization when the system of writing could not be utilized for recording literature. The method of chanting according to the laws of rhythm and cadence had to be adopted and adhered to, and the phrases and idioms, nay, the entire style of composition had to be adapted to it. Those who were endowed with good memory had to be trained up as Bhānakas or chanters and reciters of texts. Devices and formulas had to be invented and utilized as aids to memory and transmission.¹

The part played by them as interlocutors and interrogators is not, however, very praiseworthy. Although the ideal set before them was that of 'an eternal school where everyone is a teacher and everyone a learner and where all are to profit by mutual discussions',² there is not a single instance where things and problems were discussed in a true philosophic spirit. The questions put were just meant to get the answers to their hearts' liking without ever pressing any argument and counter-argument in order to arrive at the best possible solution of a problem. The *Kathāvatthu*, which tradition assigns to the reign of Aśoka, is undoubtedly a book of debates held between the different schools of Buddhist thought. But the underlying spirit of them is utterly unphilosophical. To refute anyhow the thesis put forward by the opponent is the sole aim. The import of the proposition advanced by the opponent is generally missed, misunderstood and misinterpreted. How difficult it is indeed to discuss matters with persons already committed to certain beliefs!

The remaining parts played by them were highly commendable beyond doubt. They were not, however, the originators of any new thought. The credit of originality for the vision and the first expression of thought was entirely due to the Buddha himself. He was the true seer of the truth, the bringer of the new light, and the awakener of the new conscience. While presenting the Master's doctrine to others and their own position as his beloved sons and daughters and no less as his disciples and ardent followers, many of the Theras and a few among the Theris expressed themselves in certain forms which became classical and guided the subsequent Buddhist thought.

The fundamental position of the Buddha's thought was represented by Assaji, who figured among the first five disciples, in the following couplet which went to serve as the universally accepted formula of the Buddhist creed of all times to come:

Ye dhammā hetuppabhavā tesam hetu Tathāgato āha |
tesaṃ ca yo nirodho,—evaṃvādi Mahāsamaṇo'ti ||

'The states that arise from cause, the Truth-finder has declared their cause, and the mode of their cessation as well,—thus said the great Recluse.'

As for the Buddhist conception of the self or biological entity as distinguished from the notion of soul, the Sister Vajirā is reported to have expressed her opinion in the following couplet which has guided and determined the structure of Buddhist philosophy through several centuries:

Yathā hi āṅgasambhārā hoti saddo ratho itī |
*evaṃ khandhesu santesu hoti satto ti sammuti ||*³

¹ Rhys Davids, *Buddhist India*, pp. 110 foll.; Barua and Sinha, *Barhut Inscriptions*, sub voce, *Bhāṇaka* (p. 8) and *Peṭakī* (p. 24).

² *Apadāna*, I, vv. 28-29, p. 3:

Buddhā pi buddhe pucchanti viṣayaṃ sabbaññūṃ ālayaṃ
gambhīraṃ nipunaṃ pāṇāṃ paññāya vinibujjhare.
Sāvaka buddhe pucchanti buddhā pucchanti sāvake
aññamaññaṃ ca pucchanti aññamaññaṃ byākaronti te.

³ *Saṃyutta*, I, p. 135; *Mūlinda-Paṇṇa* (Trenckner), p. 28.

'Just as the word "chariot" comes verily into use to denote a harmonious aggregate of parts, so does the conventional term "being" (individual), where an organic combination of constituent factors exists.'

Vaṅḡisa or Vāḡisa played well his part as an improviser of verses to put the utterances of the Buddha and others in attractive forms by way of expansion and elucidation. The *Vaṅḡisa-Theru-Saṃyutta* of the *Saṃyutta Nikāya* contains certain instances of such performances on the part of Vaṅḡisa.

On a certain occasion the Master happened to make a statement in the following four clauses:

Subhāsitaṃ uttamam āhu santo ||
Dhammaṃ bhaṇe nādhammaṃ, taṃ dutiyaṃ ||
Piyaṃ bhaṇe nāppiyaṃ, taṃ tatiyaṃ ||
Saccaṃ bhaṇe nālīkaṃ, taṃ catutthanti ||¹

Vaṅḡisa is said to have improvised a verse to expand each of these clauses, taking up the 2nd, 3rd and 4th clauses in order and the first clause as the last of all. The verses extemporized in the very presence of the Master ran as follows:

2. *Tam eva vācam bhāseyya yāyattānaṃ na tāpaye* |
pare ca na vihimsēyya,—sā ve vācā subhāsītā ||
3. *Piyavācam va bhāseyya yā vācā paṭinanditā* |
yam anādāya pāpāni paresaṃ bhāsate piyaṃ ||
4. *Saccaṃ ve amātā vācā—esa dhammo sanantano* |
sacce atthe ca dhamme ca āhu santo patitthitā ||
1. *Yam Buddhho bhāsate vācam khemaṃ nibbānapattiyā* |
dukkhassantakiriyyā sā ve vācānam uttamā'ti ||²

Here the credit of the formulation of ideas is due to the Buddha and that of putting the same in proper verses belongs to Vaṅḡisa. It is not difficult, however, to understand that the utterances of the Buddha have a versical rhythm of their own.

From the instances given in the above *Saṃyutta*, one may be led to doubt if the stanzas or metrical discourses put in the mouth of the Master were at all his compositions.

Among the leading Theras of the time, Sāriputta's genius was more catechetical than exegetical.³ The *Saṅgīti Suttanta* in the *Dīgha Nikāya*, the Sanskrit counterpart of which found its place among the six *Abhidharmaparakaraṇas* of the Sarvāstivāda sect, is nothing but a manual containing numerical groupings of Buddhist concepts. The *Saccavibhaṅga Sutta* in the *Majjhima Nikāya* gives credit to Sāriputta for the exegetical definition of the terms employed in the *Dhammacakka-pavattana Sutta* and the analytical method of exposition of the Discourse as a whole. But to give him any credit for this is to deprive the Buddha of the credit due to him, according to the *Dhammacakka-pavattana Sutta* itself, for having delivered the Discourse along with the exegetical definition of all the terms. If Sāriputta had, on the other hand, just reproduced his Master's voice, he must have acted only as a living reproducer and not as a powerful exponent of the Buddha's words. Moggallāna asked Sāriputta regarding the 'undefiled' (their conversation forms the *Anaṅga Sutta*, M. i, 25ff.), and at the conclusion of the *Gulissāni Sutta*, enquired whether the states of consciousness mentioned in that Sutta were incumbent only on monks from the wilds or also on those from the villages.⁴ Sāriputta questioned Upavāna about the *bojjhaṅgas*⁵ and also enquired as to why some beings were set free in this very life while others were not.⁶ Ānanda also questioned Sāriputta⁷ on the speedy knowledge of aptness in things. In both these cases Sāriputta asked Ānanda to answer the questions himself, and at the end of his discourse praised him. The instances need not be multiplied. From the general career of Sāriputta as an

¹ *Saṃyutta Nikāya*, I, p. 189.

² *Ibid.*, p. 189.

³ Cf. Malalasekera, *Dictionary of Pāli Proper Names*, ii, pp. 1108 foll.

⁴ *Majjhima N.*, i, 472f.

⁵ *Sam.*, V, p. 76.

⁶ *Ang.*, ii, 167.

⁷ *Ibid.*, iii, 201f.

interpreter of the Buddha's doctrine and as a catechizer, it is clear that his was a prosaic mind and not a poetical talent. In his case, too, it is to be doubted if the stanzas or metrical utterances attributed to Sāriputta were his own compositions. Luckily, however, Vaṅgisa has paid the following compliment to Sāriputta testifying to his power of improvisation and poetical gift:

*Gambhīrapañño medhāvī maggāmaggassa kovido |
Sāriputto mahāpañño dhammaṃ deseti bhikkhunaṃ ||
saṃkhittena pi deseti vitthārena pi bhāsati |
sālikāyiva nigghoso paṭibhānaṃ udīrayi ||
tassa taṃ desayantassa sunanti madhuraṃ giramaṃ |
sarena rajanīyena savaṇīyena vaggunā ||
udaggacittā muditā soḷaṃ odhenti bhikkhavo ti* ¹

Mahākaccāyana truly surpassed all the brothers in his power of elucidating anything stated tersely and concisely by the Master, as exemplified by the Bhaddēkaratta² and other Suttas in which the Master himself referred his disciples to Mahākaccāyana for the elucidation of the meaning of what he had stated in a terse form. Indeed, he may be singled out as the most talented exponent on the model of whose exegesis developed such exegetical works in the Pāli Canon as the Mahāniddeśa, the Vibhaṅga or Niddesa in the Sutta, Vinaya and Abhidhamma Piṭakas.

The *Thera* and *Therīgāthā*, *Apadāna* and *Kathāvatthu* are the four Pāli texts, the first two of which embody the religious experiences of Buddhist brothers and sisters, the third, the legends of their pious deeds, and the fourth, the different theological and philosophical views held by the early Buddhist sects and schools. The *Thera* and *Therīgāthā* together with the *Vaṅgisa* and *Bhikkhūṇi Saṃyuttas* constitute the most important documents recording religious experiences of many early brothers and sisters who acquired self-expression. Mrs. Rhys Davids ranks foremost among the modern scholars who have given more than passing considerations to the value of the wayfarers' words. Her last work, completed in three volumes, is a monumental contribution to the subject. Here I am concerned to consider the textual position of the various psalms ascribed to the Theras and Theris and to show in which respects their utterances bear the stamp of individuality and originality.

In the background of the psalms of the early brothers and sisters, were the Song of the Hermit (*Munigāthā*) included in Aśoka's list of seven select texts, the traditional utterances of the Paṇḍitabuddhas in the *Khaggavisāṇa Sutta* and the *Paccēkabuddhāpadāna* and the entire teaching of the Buddha himself. The main interest of the study of these psalms lies in ascertaining how the Theras and Theris made the Buddha's teachings their own and crystallized them into their highest religious experiences. It is true that many of their utterances are impersonal and may therefore be left out of account. But those which are full of personal note, are of paramount interest. I need not raise here the vexed question as to whether the psalms attributed to different Theras and Theris were their own compositions, or they were composed for them by persons amongst them who had the poetical gift of Vaṅgisa. One thing, however, is certain, namely, that the psalms of the sisters, which appear in the form of ballads or animated dialogues in verse or in the form of legendary narrations, cannot be supposed to have been the actual compositions of the Theris to whom these are attributed. But whoever might be the actual composer or composers of the psalms of the sisters, their ways of expression are peculiarly womanly, and their interest and environments befit the lives of women.

The present text of the *Thera-Therīgāthā* is precisely that which was before the Pāli commentator Dhammapāla. But, as pointed out by Oldenberg and subsequently noted by Trenckner, the authoritative stanzas cited in the *Milinda-Pañho*, particularly those in the name of Sāriputta, are not traceable in the extant *Thera-Therīgāthā*. Putting together the stanzas cited in the *Milinda-Pañho* as remarkable utterances of Sāriputta, one can get a complete poem of the leading disciple of the

¹ Cf. *Theragāthā*, vv. 1231-1233.

² *Majjhima*, III, pp. 187 foll.

Buddha which is different altogether in text from that contained in the *Theragāthā* or in any other work of the Canon.

The stanza of Vajirā is quoted in the same work evidently from the *Bhikkhūṇi Saṃyutta* and not from the *Therīgāthā* collection in which this bhikkhūṇi has no place.

Among the bhikkhūṇis who find place in the *Therīgāthā* the stanzas of one of them are cited in the *Milinda-Pañho*.¹

The *Apadāna* may be supposed to have contained the legends of those Theras and Theris whose lives and utterances were important in history. But comparing the two works, we find that the number of the Theras whose legends are narrated in the *Apadāna* is far more than the number of those who figure in the *Theragāthā*, and that the number of the Theris in the *Apadāna* is far less than that of those in the *Therīgāthā*. The omission of Yasodharā's stanzas in the *Therīgāthā* is rather very strange. The gāthās of Sumedhā in the *Therīgāthā* deserve to be included in the *Apadāna*, while the gāthās of Yasodharā occurring in the *Apadāna* should be accorded a place in the *Therīgāthā*.

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The Cave of the Shadow of the Buddha at Nagarahara.

(Identification of the locality.)

By E. CASPANI.

(Communicated by Dr. K. Nag.)

Amongst the Chinese pilgrims who visited the Buddhist shrines in India, Fa-hian in the year 402 A.D., Sung-yun and Hwei-Sang in the years 519-20 A.D. and Hiuen-Tsiang in 630 A.D., all saw near Nagarahara a cave where the shadow of the Buddha was known to appear.²

Nagarahara was in the neighbourhood of the locality where the Kabul river, coming out of the Daruntaḥ defile, enters the plain of Jalalabad and has been rightly identified by M. Foucher as the zone now called Bagram of Jalalabad, south of the above-mentioned defile.

According to Fa-hian the cave was situated half 'yojana' south of Nagarahara.³ On the other hand, Hiuen-Tsiang places it south-west of Nagarahara at a distance of nearly 20 li (about 4 miles).

¹ Trenckner's Ed., pp. 383, 387—*Gāthās of Cullasvabhaddā* :

*Ekañ c'evāhaṃ vāsiyā taccheyya kupitāmanasā,
ekañ c'evāhaṃ gandhena ālīmpeyya pamoditā,
Amuṃmim paṭigho n'atthi, rāgo asmim na vijjati,
paṭhavisamacūṭi te, tādisā samanā mamā ti.*

*Lābhena unnato loko, alābhena ca onato ;
lābhālābhena ekaññhā, tādisā samanā mamā ti.*

Visva-Bhāṣā :
VIDYA-CHAKRAVARTI BHARTI
Santibhikkhūṇi;

² S. Biel. Buddhist Records of the Western World. London, 1906. Contains a translation from the Chinese of Hiuen-Tsiang's *Sī-yu-ki* and of Fa-hian's and the other's accounts.

³ A 'Yojana', a measurement which has varied through the ages, was at the time of Fa-hian about 7 miles (v. W. Vost: The Lineal Measures of Fa-Hian and Yuan-chuang. J.R.A.S., 1903).

Following the 1922 agreement between the French and the Afghan Governments, M. Foucher was allowed to tour some districts of Afghanistan as a preliminary to the future archaeological researches. Having identified Nagarahara as the Bagram of Jalalabad, he naturally looked for the Cave of the Shadow south-west of Bagram and this 'brought him to the Siah Sang ravine south of Chaharbagh village: the remains of several religious establishments exist undoubtedly there but no sign of a cave. However, it is a known fact that conglomerate cliffs are liable to collapse and disintegrate especially when, as at Siah Sang, they rest on a foundation of clay.'¹

Grousset in his book 'Sur les traces du Bouddha' merely quotes Foucher's opinion.

Doctor Heras, who travelled in Afghanistan in 1934, visited with me the district of Jalalabad. He was struck by the precipice under the Guzara Stupa, on the left bank of the Kabul river, and by the large cave (called by the local people Fil-Khanah) which has been dug in the side of the cliff next to a Buddhist monastery also in caverns. He wondered whether this might be identified as the Cave of the Buddha, disregarding the data given by the Chinese pilgrims as to the distance and direction from Nagarahara.

On second thought I also decided to leave those data aside and to try and find instead in the detailed description left by Hiuen-Tsiang, such landmarks as might have remained comparatively unchanged through the ages.

Hiuen-Tsiang says that on a little stony ridge he found a deserted monastery, built of stone, with an assembly hall, a high tower of many storeys and a stupa in the middle of the monastery. To the south-west, in a deep ravine below, roared a torrent which *ran impetuously down from the hill between two almost perpendicular walls, forming several drops and waterfalls on the way*. In the eastern side there was a large and deep cave which had been in the past the dwelling of Naga Gopala. This was a shepherd who, having been ill-treated by his king whom he supplied with milk and cream, and thirsting for revenge, had prayed near the Dipankara stupa to be reborn as an evil Naga. *Having climbed the rocky side of the hill, he had thrown down into the precipice below*, had been transformed into a huge dragon and lived in that cave terrorizing the whole district.

However, Buddha had felt pity for the people tormented by the dragon in the very place where the prophecy of the Dipankara had been uttered in his favour, and had flown from India to their help. A stupa called 'the Stupa of the Flight' about 10 li south-west of the city (*consequently, half-way between the city and the cave*) had been erected to mark the place where Buddha had landed from his flight.

Buddha defeated the Naga, who submitted to his law and begged him to remain in his cave; the people joined their prayers to his, but the Buddha refused. 'Not now—said he—but after my death I shall send my shadow to dwell in this cave.'

The Cave of the Shadow, as Hiuen-Tsiang saw it, was dark, with a narrow entrance; the stream, having gathered momentum from the fall, penetrated into it and divided into several rivulets. *West of the cave, on a huge rock* the mark of the Buddha's cloak was still to be seen where he had spread it on the rock to dry.

I have italicized the data which in my opinion would give sufficient indications to identify the Cave of the Shadow, apart from distance and direction. I thought the cave was to be found in the zone of the stupas of the Katch-i-Lagman, i.e., the plain between Daruntah and Balabagh at the foot of the precipitous Siah-Koh range which divides the valleys of the Surkhrod and Kabul rivers. In that zone Masson² had noticed, between the hills and the Ziarat-i-Hazrat Ilias or Khwaja-Ilias, a wide ravine: in the sides of the ravine several caves had been dug and some mounds and a stupa were to be seen above them. Towards the hills the ravine ended at a great rock, and from this a 'Kol' (glen) continued up the mountain

¹ Letter addressed at the beginning of 1940 by M. Foucher to M. Hackin, head of the French Archaeological Mission in Afghanistan. M. Hackin, after visiting the locality, agreed with my opinion concerning the location of the Cave and informed M. Foucher of it.

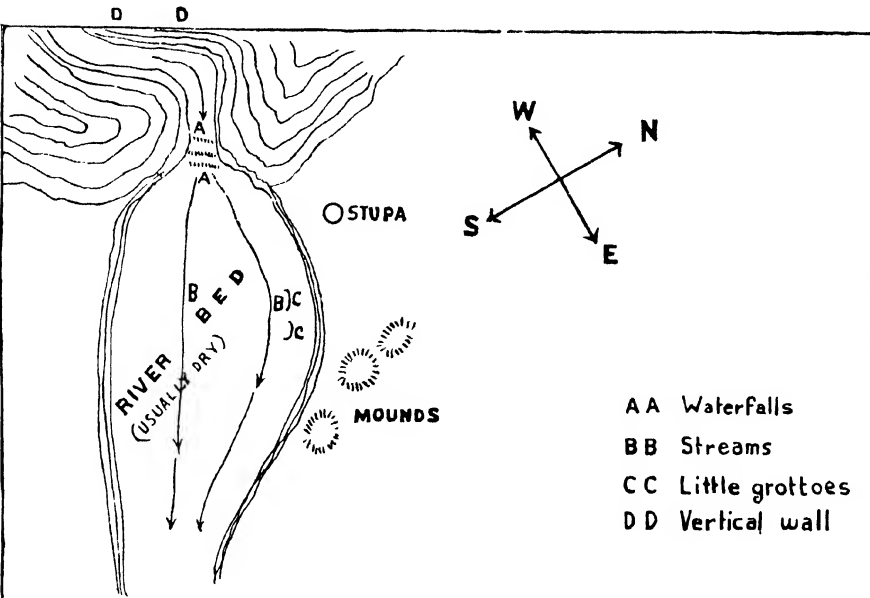
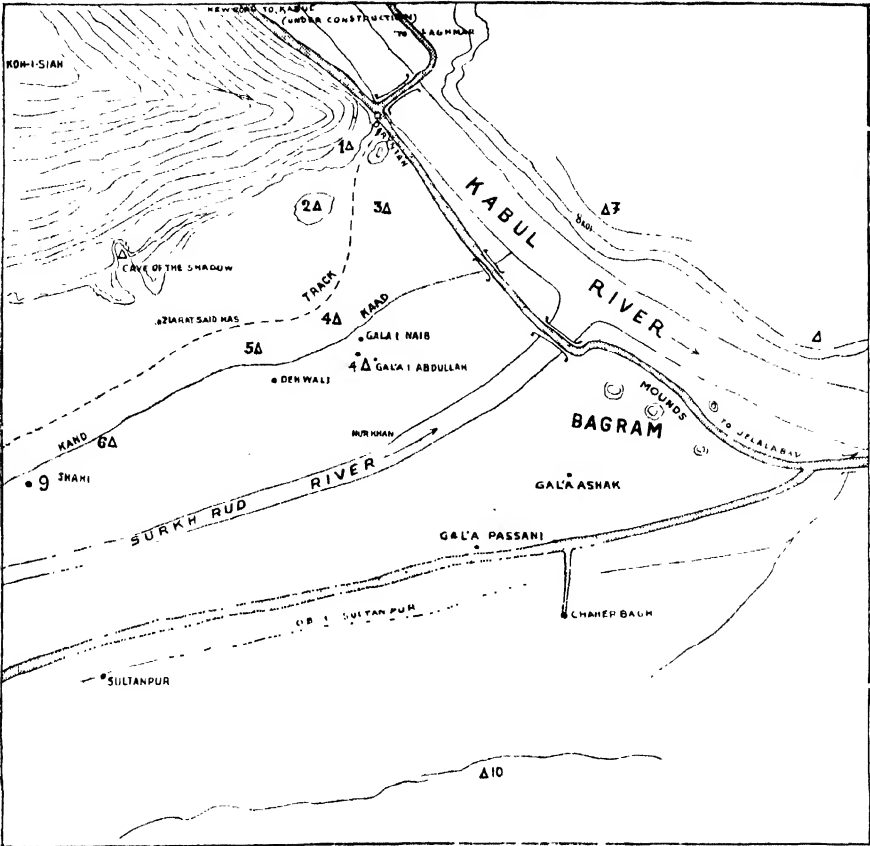
² Wilson—Ariana Antiqua, 1841.



FIG. 1. Photo showing the drops of the stream (dry) and the perpendicular wall beyond them.



FIG. 2. Photo taken from the river-bed below the waterfalls showing the North-Eastern bank of the river. (A stupu; traces of collapse in the bank; little grottoes; two stream branches.)



side. I thought this description had something in common with the description given by Hiuen-Tsiang.

Therefore I visited that zone and on the spot I was convinced that I was not mistaken.

From Jalalabad you may reach Daruntah either by car or by *gadi* (*tonga*): thence you must proceed to the cave either on horseback or on foot. It is about 4 miles by an easy and interesting track along the foothills of the Koh-i-Siah range, passing near the beautiful Khaistah and Bemaran stupas. Those who know the district may take a short-cut by following from Nasrabad, immediately after the bridge on the Surkhrod, a track, which, passing through Qal'a-i-Naib and crossing a ravine (pushtu '*Kand*') leads near the Ziarat of Said Ilas 'Aliah (Hazrat Ilias or Khwaja-Ilias according to Masson, *v. supra*). In the vicinity of the Ziarat Masson noticed a cluster of '*palosah*' (*acacia modesta*) which exists to this day. The nearest village is Qal'a-i-Katchalah (or Chakalah) not far from a little garden of palm-trees. Near the Ziarat is a water-course which is normally dry. If you follow this up you will find yourself in a deep ravine cut through a ridge of conglomerate formation which begins in the Siah-Koh and terminates in an undulation of the plain.

Even from afar the sides of this ravine appear *like walls* on either side of the stream where it pours down from the hills on the '*dasht*' (desert-like plain) below, over *two consecutive drops* several meters high. This side (*i.e.*, downstream) of the drops, some mounds and remains of stupas and dwellings are to be seen on the banks. The stream has carved a way for itself in the rocky side of the hill, forming those waterfalls and flowing in a narrow bed *between steep hills* down towards the plain. At the foot of these hills is to be found the ridge of conglomerate formation I mentioned above.

The waterfalls have as a background *a high vertical wall* of dark rocks. The stream runs along the foot of this wall before entering the first drop.

I first climbed on to the ridge connecting the hills on the left side of the stream with the Siah-Koh range. There, on the rocks nearby, I found some remains of stone buildings. From the ridge I walked down to the river-bed which flows here rapidly down-hill with sharp bends between rocky spurs high and steep; there are some low drops, like steps. Several small caves are to be seen in the rocky side of the cliffs; one of these, half-way up above the waterfalls, attracted my attention at once, but I realized that it could not be the Cave of the Shadow, considering what follows:

The Cave of the Shadow was at water-level, and the water penetrated into it; it was close to the bottom of the waterfall, in the eastern (N. eastern) side of the ravine; several Buddhist establishments were on the top of the cliff above it. Well, to this day after a rain storm the water breaks against one or two little caves in the north-eastern side; above the caves a stupa, and south of it some mounds hiding other constructions, are to be seen. The rocky and steep hill facing it to the west answers perfectly to the description of the rock upon which the Buddha spread his cloak to dry. The precipice above the waterfalls might well be the one down which Gopala hurled himself to death. This, then, is the spot. But those tiny caverns cannot be the Cave of the Shadow. This must have collapsed and the debris have been carried away by the stream; the little grottoes might have been cavities in the back wall of the old cave. The eastern bank has now a concave shape and it is possible that in the days of Hiuen-Tsiang the cave covered this concavity. This bank still bears traces of collapse.

Let us now consider the distance and the direction. This Buddhist site is at about 4 miles from Daruntah, to the south-west. The city of Nagarahara (translated by the Chinese pilgrims as Na-kie-lo-ho) was probably built on the area of Bagram and Chaharbagh; the citadel (?) and the zone of monasteries and cemeteries might have been within the area limited either by the Surkhrod or the Kand, the Kabul river and the Siah-Koh. As a result of the invasion of the Ephtalites (about 465 A.D.) the inhabited part was probably confined to the citadel which answers perfectly to Hiuen-Tsiang's description of Na-kie-lo-ho: 'a region surrounded from all sides by precipices and natural barriers'.

I add hereunder a list of the most venerated stupas in Hiuen-Tsiang's time together with their identification on the basis of the location of the Cave of the Shadow which I consider most probable:

Name of the Stupa as given by Hiuen-Tsiang.	Position as given by H.T.	Probable identification.
(1) Stupa of 'Buddha's Tooth' and, near it, another stupa 'fallen from Heaven'.	'within the city'	Stupas of Omarkhel (Masson's stupas 1 and 2 of Deh Rahman).
(2) 'Wonderful' stupa of Dipankara.	'East of the city'	Stupa called Khaistah (pushtu beautiful, wonderful). To the north of Omarkhel, but to the north-east of the path connecting Daruntah with the Ziarat of Said Ilas.
(3) Stupa 'of the Flight' and near it the 'Stupa of the Flowers'.	'10 li from the city to the S.W.'	Stupas of Bemaran.
(4) Monastery of the Cave of the Shadow, and other buildings.	'20 li S.W. of the city'	Above the Ziarat of Said Ilas, as explained before.

Therefore the present track from Daruntah to the Ziarat of Said Ilas may be considered as coincident with the ancient pilgrim-road, and, from a psychological point of view, we may easily understand how one following this track may say 'south-west of the city' rather than 'south-west of a part of the city only'¹ which would have been more accurate. Besides, Hiuen-Tsiang, like many other travellers of all times, is guilty of many such inaccuracies, some even more remarkable and some almost impossible to account for.

Therefore I consider that the small discrepancies between the statements of the Chinese pilgrims concerning the orientation and my hypothesis do not fundamentally affect the latter's correctness as to the location of the Buddhist site near the Cave of the Shadow, based as it is on an objective examination of the topographic data.

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Mun-mkhyen Čhos-kyi ḥod-zer and the origin of the Mongol alphabet.

By G. N. ROERICH.

The Tibetan and Mongol historical tradition ascribes the creation of the Mongol alphabet to two Sa-skyā lamas—the Sa-skyā Paṇḍita (Sa-skyā Paṇ-chen>Sa-pan) Kun-dgaḥ rgyal-mtshan (1182–1251) and Čhos-kyi ḥod-zer. Towards the end of the first-half of the thirteenth century some Mongol tribes, headed by Prince Godan,² son of Ögödei and younger brother of Güyük, and Prince Dörda,³ settled in Kansu (W. China) in the region of Liang-chou, Kan-chou and Su-chou. Having occupied grazing grounds in a country with a mixed population of Uighurs and Tangut Tibetans, the Mongols came into daily contact with the Lamaist form of Buddhism. The Mongols had, of course, contacted Buddhism long before that, but here, on the Tibetan borderland and within the boundaries of the former Mi-ñag Tangut (Hsi-hsia) kingdom, they found themselves for the first time among a predominantly Buddhist population. The results of this cultural contact soon began to tell on

¹ The city was then of small size and would disappear from sight when going in the direction of the Cave of the Shadow.

² Born in 1206 A.D., became Khan in 1234 A.D.

³ Dörda darqan of the tribe of the Oyimarud (Sarang Sehin, I. J. Schmidt: *Geschichte d. Ost-Mongolen*, pp. 110-111).

the Mongol tribesmer, and paved the way for the dominant influence of Buddhism in the reigns of the Emperor Khubilai and his successors. The Mongols rapidly came under the cultural influence of the Uighurs, who had settled in the ninth century A.D. in the region of Kan-chou. No doubt the spread of Uighur culture among the Mongols was greatly facilitated by the fact that the Mongol ruling classes had adopted the Uighur script in the early days of the Mongol Empire after the conquest of the Naiman tribal lands in 1204 A.D. The Uighur influence was considerable and probably even preceded that of Tibet. We know that Buddhist texts were translated into Mongol in the fourteenth century, and that some were recopied as late as the seventeenth century (1676 A.D.), using the Uighur script of the fourteenth century (W. L. Kotwicz: 'Quelques données nouvelles sur les relations entre les Mongols et les Ouigours'. *Rocznik Orjentalistyczny*, II (1925), pp. 241ff.—fragments of Mongol translations of Buddhist texts were discovered by Professor S. Malov in Kansu in 1910). Having settled on the Tibetan borderland, the Mongols did not penetrate far into Tibet, but Tibetan chronicles more than once mention Mongol inroads into Central Tibet. Thus it is said that in 1239 A.D. (saphag, Earth-Hog year) some Mongol troops under Dörda, whom the Tibetan chronicles style Dor-rta nag-po, or the 'Black' Dörda, made a hostile incursion into Central Tibet (the provinces of dbUs and gTsañ), and that some damage was done to the great Rwa-sgreñ monastery and rGyal Lha-khañ (a famous temple in hPhan-yul, north of Lha-sa). According to the chronicles (the rGyal-rabs of the Fifth Dalai Lama,¹ fol. 53a; dPag-bsam ljon-bzañ of Sum-pa mkhan-po, Calcutta, 1908, p. 158) several hundred monks had been killed in both Rwa-sgreñ and rGyal Lha-khañ. The authors of our chronicles somewhat overcoloured the events, and the story probably refers to the Mongol Embassy under Prince Dörda which came with a large military escort to invite the Sa-skyā Paṇḍita to visit the camp of Prince Godan near Liang-chou. The rGyal-rabs of the Fifth Dalai Lama (fol. 53a; also dPag-bsam ljon-bzañ, p. 158) says that the Mongols established their control over the whole of Central Tibet, from Koñ-pohi yul in the East as far as Nepāl (Bal-po) and the Himālayan Region (Lho-Mon) in the South, and brought the whole country under the Imperial Rule.² Prince Dörda then sent a report to the Imperial Palace (i.e. the residence of Prince Godan near Liang-chou in Kansu), saying that in Tibet the bKaḥ-gdams-pas had the most numerous clergy, that the sTag-luñ Ḥos-rje was cleverest in protecting charms (no-sruñs), that sPyansia of hBri-khuñ was greatest in splendour, and that the Sa-skyā Paṇḍita was the most learned in the Doctrine. On this mission Prince Dörda was accompanied by one named rGya-smān (the name is thus spelt in the rGyal-rabs of the Fifth Dalai Lama; the dPag-bsam ljon-bzañ, II, p. 158, writes rGyal-smān). On receipt of the Prince's command, rGya-smān proceeded to Sa-skyā to convey Godan's invitation to the Sa-skyā Paṇḍita. In 1244 A.D.³ the Sa-skyā Paṇḍita Kun-dgañ rgyal-mtshan,⁴ aged 63, accompanied by his two nephews hPhags-pa (bLo-gros rgyal-mtshan, the famous Imperial Preceptor of the Emperor Khubilai) and Phyaḡ-na, left Sa-skyā dgon-ḥen, and journeyed northward on the invitation of Prince Godan. Accompanied by a large retinue they leisurely journeyed across the northern uplands of Tibet, and reached Liang-chou in 1245 A.D. (me-lug, Fire-sheep year). In recent works on the period one often finds stated that the Sa-skyā Paṇḍita had come to Lan-chou, but the Tibetan transcriptions Lan-ju ~ Lan-gru (pron. Lan-dhu) ~ Lyañ-ju stand for Liang-chou in Kansu, in the vicinity of which still stands the ruined monastery of sPrul-paḥi-sde, the former residence of the Sa-skyā Paṇḍita. This monastery is one of the 'Four

¹ The rGyal-rabs, contained in Vol. XIX (Dza) of the gSuñ-hbum, had been written by the Fifth Dalai Lama Nāg-dbañ bLo-bzañ rgya-mtsho (1617-1682) at the request of Guši Khan (1582-1654) of the Xoḥod. The work has been translated into Mongol.

² This version certainly anticipates events. Actually the Mongols did not occupy Tibet and preferred to control the country through the Buddhist Church.

³ Deb-ther sñon-po, Book IV (Na), fol. 4b; 1244 A.D. was a Wood-Male-Dragon year, śin-pho-hbrug.

⁴ According to the rGyal-rabs of the Fifth Dalai Lama, fol. 55b, the Sa-skyā Paṇḍita had been ordained in the presence of the Kha-jhehi Paṇḍita Śākyasribhadra.

Monasteries' or sDe-bži, situated in the neighbourhood of Liang-chou, and which are visited annually by thousands of pilgrims from adjacent Amdo (the 'Four Monasteries' or sDe-bži are: sPrul-paḥi sde, Saḥi dbaṅ-gi sde [in the rGyal-rabs of the Fifth Dalai Lama, fol. 56a, the monastery to the South of Liang-chou is called dBaṅ-gi sde], Padmaḥi sde and rGya-msthoḥi sde. See Hor ḥhos-ḥbyuṅ, I, p. 264 [Tibetan text]; II, p. 416 [translation]. The temples have sustained some damage in a recent earthquake). The Śiṅ-kun mkhar, frequently mentioned in the Deb-ther sñon-po and other chronicles, must have corresponded to the walled city of Liang-chou, for it is said to have been situated near the monastery of sPrul-paḥi sde. It was to Liang-chou (Hsi-Liang) that Khubilai sent an envoy to ask Prince Godan to invite on his behalf the Sa-skyā Paṇḍita.¹ At the time of the arrival of the Sa-skyā Paṇḍita to Liang-chou, Prince Godan must have been away in Qaraqorum,² attending the great quriltai, which elected Prince Güyük emperor. The meeting between Prince Godan and the Sa-skyā Paṇḍita took place early in 1247 A.D. on the return of the Prince from Mongolia, and the Prince 'imbibed faith', to use the expression of the Tibetan chronicles, in the Tibetan hierarch. According to the rGyal-rabs of the Fifth Dalai Lama, fol. 56a, and Sarang Seḥin (I. J. Schmidt: *Geschichte d. Ost-Mongolen*, pp. 112-113)³ the Sa-skyā Paṇḍita cured Prince Godan of leprosy (sa-bdag-gi nad). The Sa-skyā Paṇḍita is said by some of the Tibetan chronicles (the Thu-kwan grub-mthaḥ, composed in 1801 A.D. by Thu-kwan bLo-bzaṅ Ḥos-kyi ṅi-ma [1737-1802], *Book on the 'Propagation of the Doctrine in Mongolia, Li-yul and Sambhala'*, fol. 3a; Hor-ḥhos-ḥbyuṅ, ed. G. Huth, pp. 83ff. [Tibetan text]) to have created between 1247 and 1251 A.D. a new Mongol script (yi-ge gsar-pa). A similar account is found in the Mongol work *Jirūken-ü toltayin tayilburi* (printed in the reign of the Emperor Yung-chéng, 1722-35. The text of the work is given in Professor A. Pozdneev's *Mongol Reader*, St. Petersburg, 1900, pp. 360-379. The story about the new script is found on p. 362. Tradition ascribes this work to Ḥos-kyi hod-zer [Berthold Laufer: *Skizze d. mongolischen Literatur*, Keleti Szemle, 1907, VIII, pp. 185-6], but it seems to be a later compilation, based on Tibetan and Mongol chronicles). A collation of the three versions shows that the three go back to a common source, which we are as yet unable to determine. On the other hand, a number of important Tibetan and Mongol sources completely ignore the story. Thus the 'Blue Annals' or the Deb-ther sñon-po, written by ḥGos lo-tsāba gZon-nu dpal in 1476 A.D. (Me-spre, Fire-Ape year; Deb-ther sñon-po. Book IV(Na), 19l. 4b), the rGyal-rabs of the Fifth Dalai Lama, fol. 56a, and Sarang Seḥin (Schmidt: *Geschichte d. Ost-Mongolen*, pp. 110-113) make no mention of the new script invented by the Sa-skyā Paṇḍita. It seems that the rôle of the Sa-skyā Paṇḍita was limited to the adoption of the existing Uighur script, currently used in Mongol chancelleries, to express the requirements of Mongol speech in the translation of Buddhist texts from Tibetan. The Sa-skyā Paṇḍita must have attempted to translate from Tibetan into Mongol, and in doing so availed himself of the existing Uighur script.⁴

The Sa-skyā Paṇḍita died in 1251 A.D. (Lčags-phag, Iron-Hog year)⁵ at the sPrul-paḥi sde monastery, situated east of Liang-chou, and the stūpa (sku-gduṅ mčhod-rten) containing his mortal remains is still preserved in the semi-ruined monastery. Prince Godan is said to have died in the same year. This Mongol Prince was instrumental in fostering the bond between the Mongol Emperors and the Lamaist Church. Professor Pelliot (*ibid.*, p. 286) quotes a passage from the Fu-tsu-li-tai-t'ung-tsai (completed between 1333 and 1344 A.D.) which relates that

¹ P. Pelliot: 'Les systèmes d'écriture en usage chez les anciens Mongols', *Asia Major*, II, 2 (1925), p. 286.

² Originally Turkish Qarā-qūrām or 'Black pebbles', which corresponds to the Mongol Qara-sayir—a common place-name in Mongolia.

³ A. Mostaert: 'Ordosica', *Bulletin of the Catholic University of Peking*, No. 9 (1934), p. 48, note 7.

⁴ P. Pelliot, *Asia Major*, II, 2 (1925), p. 289.

⁵ Thu-kwan grub-mthaḥ, *Book on the 'Propagation of the Doctrine in Mongolia, etc.'*, fol. 3a.

'Prince Khubilai before his accession to the Imperial Throne, had heard about a virtuous monk Ch'o-li-schê-wa in the West, and desired to see him. He accordingly sent a messenger to Hsi-Liang (Liang chou) to Prince Godan (K'uo-tan) with a request to invite the Priest. The Prince informed the messenger that the Master had entered Nirvāṇa, but that there was his nephew Fa-ssü-pa (hPhags-pa), aged sixteen . . . ' This passage evidently refers to the Sa-skyā Paṇḍita, and the Ch'o-li-chê-wa mentioned in the text represents the Chinese transcription of the Tibetan Čhos-rje-ba (pronounced Č'ŕje-wa or Č'ŕ-je-wa; Mongol: Corji)—a title of the Sa-skyā Paṇḍita by which he is known to the Tibetan chronicles (in the modern language the form Čhos-rje-wa, as distinct from Čhos-rje or Dharmasvāmin, has assumed a somewhat derogatory character, but in the Mongol epoch it was commonly used as a form of address of high Church dignitaries).

The Sa-skyā Paṇḍita was succeeded as court priest of the Mongol Emperor by his nephew the famous hPhags-pa bLa-ma bLo-gros rgyal-mtshan (1235/9-1280), the inventor of the so-called Mongol 'square' script or dŭrbeljin üsüg (this script, long dead in Mongolia and China, is still being studied in Amdo).

Besides these two Church dignitaries, the Tibetan and Mongol chronicles of the eighteenth to nineteenth centuries prominently mention the Sa-skyā bLa-ma Čhos-kyi ĥod-zer (Mongol: Nom-un gerel) ~ Čhos-sku ĥod-zer, as the co-inventor of the Mongol script, and the continuator of the work left unfinished by the Sak-skyā Paṇḍita. As in the case of the Sa-skyā Paṇḍita most of the sources belonging to the eighteenth to nineteenth centuries mention the new Mongol script developed by Čhos-kyi ĥod-zer, whereas the earlier Tibetan sources make no mention of the script when speaking of Čhos-kyi ĥod-zer. The well-known eighteenth century compiler kLoṅ-rdol bLa-ma Naḡ-dbañ bLo-bzañ (wrote in 1777 A.D.) in his bsTan-paḡi sbyinodag byun-tshul-gyi miñ-gi grañs, fol. 10b, included in his 'Collection of Works' or gSuñ-hbum (Sung-chu-ssü edition), tells that the Hor-ĥĥiñ-gi rgyal-po Khu-lugs (Külüg) invited the brahmacārin upāsaka, the All-knowing Čhos-sku ĥod-zer, the 'inventor of the first Mongol script' (Hor-ĥĥiñ-gi rgyal-po Khu-lugs-kyis Sog-yig thog-mar bčos-mkhan tshañs-spyod dge-bśñen Kun-mkhyen Čhos-sku ĥod-zer gdan-drañs). In the Jirüken-ü tolta-yin tayilburi (A. Pozdneev: Mongol Reader, St. P., 1900, p. 364; the same passage is quoted by Professor A. Pozdneev on pp. 193-4 of his Lekcii po istorii Mongol'skoi Literatury, St. Petersburg, 1896, vol. I) it is said that the Emperor Qayisan Külüg qarān had commissioned the Sa-skyā bLa-ma Čhos-kyi ĥod-zer to translate Buddhist scriptures into Mongol, and that Čhos-kyi ĥod-zer, instead of availing himself of the Mongol Official Script or Hor-yig (dŭrbeljin üsüg), made use of the script developed by the Sa-skyā Paṇḍita, and added to it some final letters (segül-tü üsüg). He used this script in translating Buddhist scriptures into Mongol.

The 'History' of Sarang Seč'in, composed in 1662 A.D., does not mention the new script and briefly states that the Emperor Külüg, son of Dharmabala (Dharmapāla), ascended the throne in 1308 A.D. (beč'in jil, Ape year), and commissioned the monk (toyin) Čhos-kyi ĥod-zer (in Mongol: Nom-un gerel) to translate (into Mongol) the greater part of the Sūtras and Dhāraṇis (I. J. Schmidt: Geschichte d. Ost Mongolen, p. 120).

The above three texts place Čhos-kyi ĥod-zer in the reign of the Emperor Külüg (1307-11).

Most of the Tibetan historical compilations of the eighteenth to nineteenth centuries make mention of Čhos-kyi ĥod-zer, but show a tendency to place him somewhat earlier, in the reign of Külüg's predecessor—Temür-Öljeyitü (son of Činkim, b. 1265 A.D., d. 10th February, 1307 A.D.). Thus the Thu-kwan grub-mthah in the Book on the 'Propagation of the Buddhist Doctrine in Mongolia, Li-yul (Khotan), and Šambhala', fol. 4b, briefly states:

'Ol-jeḡi rgyal-poḡi dus-su Sa-skyā-pa Čhos-kyi ĥod-zer bya-ba byon-nas sñar Sa-paṅ-gyis bzos-paḡi yi-ge-la yi-ge mjug-ma-čan mañ-po bśnannas čhos-bśgyur thub-pa mdzad (phyis-syur Haḡi-san Khu-lug rgyal-poḡi dus gZuñs-gra-lña sogs bKaḡ-bstan čhos Sog-skad-du bśgyur).'

'In the time of the Emperor Ol-jehi (Öljeyitü), one known as the Sa-skyapa Čhos-kyi ḥod-zer came, and having added many final letters (yi-ge mjug-ma-čan) to the script formerly invented by the Sa-paṇ (Sa-skyapa Pandita), made the translation of religious texts (into Mongol) possible. Later, in the time of the Emperor Habi-saṇ (Qayisan) Khu-lug (Külüg) texts from the bKaḥ-hgyur and bsTan-hgyur, such as the Pañcarakṣā (gZuṁs-gra-lña) and others, were translated into Mongol.' The chronicle also adds that since religious texts could not be translated into Mongol with the help of the ḥKor-yig (~Hor-yig), the Mongols used the Uighur language when reciting religious texts (fol. 4b: ḥon-kyan ḥKor-yig-gis Sog-skad-du ḥos-bsgyur ma-thub-pas (Sog-po-rnams-kyis ḥos-ḥdon-paḥi tshe Yu-gur skad-kyis ḥdon-pa-la). The Hor-ḥos-hbyuṇ (ed. G. Huth, I (Tibetan text), pp. 102ff.; II (translation), pp. 160-4. Huth's translation of the passage needs revision) tells us that Čhos-kyi ḥod-zer has been the court priest (mčhod-gnas) of the Emperor Öljeyitü and later occupied the same office in the reign of the Emperor Külüg. In the reign of the Emperor Külüg, Čhos-kyi ḥod-zer developed a script of 98 signs based on the script invented by the Sa-skyapa Pandita. The text also gives some biographical data on Čhos-kyi ḥod-zer, evidently based on the account found in the Deb-ther sñon-po.

Chinese texts also know Čhos-kyi ḥod-zer, but assign a later date to him, and make no mention of the new script. Professör Pelliot (*ibid.*, p. 287) quotes the Yüan-ta-hua-shuo-chi, which under the year 1310 A.D. mentions a person named Ch'o-ssü-chi-yüeh-chi-êrh, i.e. Čhos-kyi ḥod-zer. Under the year 1321 A.D. the Yüan-shih (99, 7b) also makes mention of Ch'o-ssü-chi-wo-chieh-êrh pa-ha-shih or Čhos-kyi ḥod-zer bayši. Professor A. Pozdnev in his Lekcii po istorii Mongol'skoi Literatury, vol. I, p. 194, quotes a passage from the Yüan-shih where mention is made of a lama of the Western Countries named Ch'o-ssü-chi-wo-chieh-êrh, i.e. Čhos-kyi ḥod-zer, who in the third moon of 1313 A.D. received a grant of 10,000 tins of paper money.

We thus see that most of our sources, Tibetan, Mongol and Chinese, place Čhos-kyi ḥod-zer in the beginning of the fourteenth century. On the contrary earlier Tibetan sources place him in the thirteenth century, and consider him a contemporary of the famous ḥPhags-pa bLa-ma. Our chief source should have been the Life or rNam-thar of Čhos-kyi ḥod-zer written by his disciple Kun-spans Žaṇ (Kun spans Thugs-rje brtson-hgrus, b. in 124? A.D. a Water-Female Hare year, ḥu-mo-yos [Debther sñon-po]. Studied the Kālacakra system with Čhos-kyi ḥod-zer), but unfortunately this work, which exists in manuscript form only, is extremely rare in Tibet itself, and unobtainable outside of the country. This rNam-thar was the main source for the short biographical note on Čhos-kyi ḥod-zer, contained in the Deb-ther sñon-po ḥGos lo-tsā-ba. Bu-ston Rin-po-ḥe in his bDo-mčhog ḥos-hbyuṇ (vol. V [Čha] of the Bu-ston bKaḥ-hbum) also refers his readers to this rNam-thar. According to ḥGos lo-tsā-ba (Deb-ther sñon-po, Book X [Tha], fol. 9aff.) the bLa-ma Čhos-kyi ḥod-zer or Čhos-sku ḥod-zer was born in the year Wood-Male-Dog (śiṁ-pho-khyi—1214 A.D.), and the text adds that in the preceding Water-Female-Hen year (ḥu-mo-bya—1213 A.D.) the Kha-ḥe paṇ-ḥen (Śākyaśrībhadra, 1127-1225 A.D.) returned to Kāśmīra (Kha-ḥe paṇ-ḥen ḥu-mo-byaḥi lo-la Kha-ḥer gśegs-paḥi phyi-lo śiṁ-pho-khyiḥi lo-la ḥkhruṁs-pa deḥi rnam-par-thar-pa). In the chapter on the Propagation of the Guhyasamāja Tantra in Book VIII (Na), fol. 10a-b, we are told that Čhos-kyi ḥod-zer was a natural son (sbaṁ-paḥi sras) of the well-known religious teacher gSer-sdiṁs-pa gŽon-nu ḥod and the nun Śes-rab rgyan, also known as the 'Nun from ḥGar' (ḥGar btusun-ma), a sister of gSer-sdiṁs-pa's disciple ḥGar Gragspa dbaṁ-phyug (Rev. dGe-ḥdun Čhos-ḥphel informs me that a detailed Biography or rNam-thar of gSer-sdiṁs-pa exists in manuscript form in Tibet). The father first hid his parentage, and even caused the expulsion of the nun from the monastery, and she went to live in another place. When a boy was born to her, he was called bDag-med rdo-rje. When the boy reached the age of five, his father decided that the time had come to reveal the secret (gsaṇ brtol-ba). He accordingly offered tea to the monastic congregation, and admitted his transgression. He then

introduced his son to the Doctrine, and he took up ordination, and received the name of Čhos-kyi ḥod-zer, which was later changed to that of Čhos-sku ḥod-zer by ḥGro-mgon ḥPhags-pa (in Tibetan chronicles he is known by the second name but in the Mongol texts he is usually named Čhos-kyi ḥod-zer or Nom-un gerel. In the encyclopaedia *Merged yarqu-yin oron* (mKhas-pahi ḥbyuṅ-gnaṣ), Section *Pharphyin*, fol. 13, it is said that Čhos-sku ḥod-zer was also called Čhos-kyi ḥod-zer). His father then sent him to ḥJam-dbyaṅs gsar-ma, a famous scholar and founder of the monastic college of sKyaṅ-ḥdur, who had visited the famous monastery of Ri-bo rtse-lña (Wu-t' ai-shan in Shanhsi, W. China).¹ Later Čhos-kyi ḥod-zer studied the Kālacakra system and the Vimalaprabhā under Se-mo-ḥhe-ba, a well-known scholar in the system of Kālacakra. Čhos-kyi ḥod-zer, we are told, belonged to the spiritual lineage (brgyud-pa) of ḥBro lo-tā-ba (Deb-ther sñon-po, Book X [Tha], fol. 3a). The Deb-ther sñon-po does not mention Čhos-kyi ḥod-zer's journey to Mongolia, nor the new Mongol script created by him. The rGyal-rabs of the Fifth Dalai Lama is also silent on this point. Čhos-kyi ḥod-zer must have visited Mongolia and China rather late in life, probably after 1270 A.D. The Deb-ther sñon-po does not give the year of his death, but Sum-pa mkhan-po's Reḥu-mig (JASB., 1889, p. 57) states that he died in 1292 A.D. If we are to accept the statements of the Tibetan and Mongol chronicles of the eighteenth to nineteenth centuries, we will have to admit that Čhos-kyi ḥod-zer must have lived to a very advanced age, and that in 1310 A.D. he must have been 96. But, if we are to retain the dates given in the Tibetan chronicles (Deb-ther sñon-po, Reḥug-mig), we will have to assume that Čhos-kyi ḥod-zer must have laboured at the court of Temür Öljeyitü prior to the latter's accession to the Imperial Throne in 1294 A.D. The fact that the Tibetan chronicles call Temür Öljeyitü emperor, should not disturb us, for even Prince Godan, who never sat on the Imperial Throne, is called emperor or Great Khan by the same chronicles. Our earliest sources make no mention of the new script invented by Čhos-kyi ḥod-zer, and we will do well to assume with Professor V. Vladimircov and Pelliot that Čhos-kyi ḥod-zer, like his predecessor the Sa-skya Paṇḍita, did not invent a new script, but simply availed himself of the existing Uighur script, instead of the official Mongol script or Hor-yig, created by the ḥPhags-pa bLa-ma.² Čhos-kyi ḥod-zer must have done however a great deal of philological and grammatical work, which permitted him to translate Tibetan Buddhist texts into Mongol, and in this field his influence must have been considerable. We know that he has been active both as author and translator. For instance, we know that he had composed in Tibetan the Burqan bayši-yin arban qoyar jökiyangyui, which was later translated into Mongol by the translator Šes-rab sei-ge.³ The Jirüken-ü tolta-yin tayilburi (Pozdnev: Mongol Reader, p. 364), and the Hor-čhos-ḥbyuṅ (ed. Huth, I, p. 105) credit him with a translation into Mongol of the Pañcarakṣā (gZuṅs-gra-lña), and the Mongol translation of the Pañcarakṣā printed in Peking seems to be the work of Čhos-kyi ḥod-zer.⁴ Čhos-kyi ḥod-zer also translated into Mongol the Bodhicaryāvatāra of Śāntideva (the Mongol text of Čhos-kyi ḥod-zer edited by Professor V. J. Vladimircov, Bibl. Buddhica, vol. XXVIII, Leningrad, 1929). In his Introduction, p. III, Professor Vladimircov stresses the great importance of the pioneering work of Čhos-kyi ḥod-zer. In the colophon of Čhos-kyi ḥod-zer's Mongol text (p. 170) it is said that Čhos-kyi ḥod-zer had completed the translation of the text in the year of the Serpent (moyai jil-dur oruṣiyulju dayusba). In his Introduction (p. II), Professor Vladimircov says that this year of the Serpent corresponds to 1305 A.D., but since the element of the year is not indicated in the text, it could also correspond to the year 1281 A.D. (an Iron-Serpent year, lčags-sbrul), which would mean that the translation was completed by Čhos-kyi ḥod-zer some ten years before his death

¹ A short biographical notice on ḥJam-dbyaṅs-gsar-ma is found in the Deb-ther sñon-po, Book VI (cha), fol. 5a.

² V. Vladimircov: *Mongol'skij Sbornik rasskazov iz Pañcatantra*, 1921, p. 47, note 1.

³ V. Vladimircov: *Sravnitel'naja Grammatika Mongol'skogo Pis'mennogo jazyka*, Leningrad, 1929, p. 36.

⁴ Vladimircov: *Mongol'skij Sbornikrasskazov iz Pañcatantra*, p. 44, note.

in 1292 A.D. The mention of a person named Čhos-kyi ḥod-zer in the Yüan-shih under the year 1321 A.D. is difficult to explain. It might be a simple mistake, or it might refer to another person of the same name. The Deb-ther sñon-po (Book VIII [Na], fol. 52b) mentions a Čhos-kyi ḥod-zer, abbot of the ḥTshur-phu monastery and brother of Rin-po-čhe Kun-dgaḥ blo-gros, who lived in the second-half of the fourteenth century. The abbots of ḥTshur-phu always maintained contact with the Imperial Court of China, and many of them were given honorific titles. Thus ḥJam-dbyaṅs don-grub ḥod-zer was given the title of Kuan-ting Ta-kuo-shih soon after 1407 A.D. It seems to us we have no reasons to reject the year of Čhos-kyi ḥod-zer's birth (1214 A.D.) as given by the Deb-ther sñon-po, which links this date to the well-established date of the Kha-čhe paṅ-chen's departure to Kaśmira. Further investigation will no doubt help to ascertain the date of Čhos-kyi ḥod-zer's death. For the present some of the important sources on the Mongol epoch, such as the Sa-skya čhos-ḥbyuṅ and the rGya-nag čhos-ḥbyuṅ of Guṅ mGon-po skyabs, remain inaccessible to us.

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REVIEWS OF BOOKS.

THE ADMINISTRATION OF THE SULTANATE OF DELHI. By 'ISHTIÁQ HUSAIN QURESHÍ, M.A., Ph.D. (Cantab.). 8½" × 5½", pp. xvi + 240 + 48. Sh. Muḥammad Ashraf, Kashmīrī Bazār, Lahore, 1942.

Sh. Muḥammad Ashraf has been publishing for some time interesting and valuable books on subjects connected with the history of Muslim India. The book under review is one of them. In this charming book Dr. 'Ishtiáq Husain deals with the administration of the Sultanate of Delhi and its provinces, during the Muslim period. He has collected his material from a considerable mass of original as well as secondary sources, some of which still remain unpublished. Epigraphical and numismatic sources also have not been neglected. In using all these varied sources the author has shown broad outlook as well as critical acumen. He rightly lays stress on the unity of the general principles and the methods of administration followed in the different apparently disconnected Muslim States during the middle ages. He correctly advocates that such historical events as were due to the personal idiosyncrasies of individual Sultans should not be mistaken for the general policy of the State. He stresses that the ideal of the Sultans of Delhi in general was to serve impartially and devotedly the creatures of God Who entrusted them to their care.

Having given a brief survey of the period with which the author deals, and of some of the important sources which he utilized, he discusses the position of the Caliph, the relation of the Muslim monarchs, specially that of the Sultans of Delhi, to him, and the idea of sovereignty according to Islam. He then proceeds to deal with the royal household, the ministers and their different classes, the financial system, the organization of the army, the administration of justice and its different branches, the religious affairs, education and public works, the provincial and local government, together with the various institutions and departments connected with them. He concludes his thesis with a chapter on the spirit of the government which he thinks was tolerant, impartial and benevolent. He has added a long and exhaustive bibliography at the end.

It appears that the author could not pay as much attention and care to the introductory and the concluding parts as they deserved. He has made no use of an important work on the political and religious philosophy of Islam by an Indian author of unanimously recognized merit and authority. It is the Ḥujjatul-Lahī'l-Báligha of Sháh Walī'ulláh of Delhi, which contains some very valuable remarks on the character of Muslim rule in India. Among the sources used by the author there are some unpublished anonymous manuscripts. Such works are generally of doubtful authority. They can be utilized only after their authenticity is proved. In his bibliography the author has included the Mulfuẓát-i-Timūr also which has been

proved to be a forged book. There are also a few misprints in the transliteration of Arabic words.

The author, however, deserves credit for his hard work and research and for what he has achieved. The book fills in a great need. It is useful for the students of the subject and its perusal is sure to repay every reader.

M. Z. S.

THE BUDDHIST CONCEPTION OF SPIRITS. By DR. BIMALA CHURN LAW, M.A., B.L., Ph.D. (Cal.), D.Litt. (Lucknow). Second edition. Luzac & Co., London, 1936, xii+114.

This is another of those valuable contributions to Buddhist studies, for which Dr. B. C. Law is now sufficiently well-known. It consists of six chapters traversing almost the whole ground of Buddhist belief in spirits as reflected in the Pali literature. In the first chapter the author after noticing the verbal correspondence between the Vedic *pitras* and the Pali *petas* points out their essential resemblances and differences. The second chapter deals with the resemblances between the five *mahāyajñas* of the Brāhmaṇas and the five *balis* of the Buddhists as well as those between the nine-fold division of beings after death according to the former with the nine abodes of beings according to the ideas of the latter. The author also shows how the religious beliefs and social practices associated with *preta*-belief are generally connected with the Brāhmaṇas in the early Buddhist tradition. In the same context he points out how the Buddhists promulgated afresh the doctrine of *karma* and that of heavens and hells. It would have been well if these two statements had been reconciled with each other. In the third chapter dealing with the *Petavatthu*, 'the Buddhist Book of the Dead', the author well explains how all the different trends of thought met with in other parts of the Pali canon are made to converge in this work. Amplifying this dictum, he points out how the main underlying motive of all the *preta* stories is to improve the expression of sorrow, to encourage piety, to establish the validity of the law of *karma* and, above all, to inculcate faith in the Buddhist Holy Triad. Chapter 4 culls from various stories of the *Petavatthu* interesting descriptions of the physical conditions of the *pretas*. Chapter 5 gives short summaries of forty-seven *preta* stories as told in Dhammapāla's commentary on the *Petavatthu*. The doctrinal bearings of these stories are told in the sixth and last chapter where we learn, among other things, that while the stories have no trace of spirit-worship or ancestor-worship, they are a call to lay devotees to perform meritorious deeds on earth, to save themselves from miseries hereafter.

A short but useful index brings this highly interesting monograph to a close.

U. N. GHOSHAL.

INDIA AS DESCRIBED IN EARLY TEXTS OF BUDDHISM AND JAINISM. By DR. BIMALA CHURN LAW, M.A., B.L., Ph.D. (Cal.), D.Litt. (Lucknow). 315 pp. Luzac & Co., London.

The present volume, as the author says in his preface, was originally a thesis for the degree of Doctor of Literature of the Lucknow University. The book is divided into five chapters. In the first chapter the author tries to give a systematic geography of India with the help of materials available from the Pali texts and the Jaina Āgamas. In the next chapter the kings and peoples mentioned in those two literatures have been discussed. In Chap. III there is an account of the social life and economic conditions of the age in question. In the last two chapters the subjects of religion and education and learning have been treated.

As the title shows the author has taken as his bases the Buddhist and Jaina canonical literatures. The Buddhist literature has been studied from different angles of vision by many scholars including the author himself. But the Jaina sources still remain a virgin field. It was a happy choice of the author to take up

a study of this branch of the literature and to compare their data with the information available from the Pali texts. The traditions contained in the literatures of the two religions roughly belong to the same period of Indian history and they required to be studied together. While dealing with these two sources the author has not neglected the contemporary Brahmanical literature.

The author's treatment is thorough and comprehensive. He has displayed his habitual critical acumen in sifting the data. As such the book is a reliable piece of work which will be highly useful to all students of Indian history and culture. An additional chapter on the chronology of the Buddhist and Jaina texts would have much enhanced the value of the present work but, even as it is, it is sure to receive the recognition which it aptly deserves. We congratulate the author for this new and valuable contribution to our knowledge of Buddhist and Jaina sources.

P. C. BAGCHI.

ĠIT-MANJARI.—THE SADUL ORIENTAL SERIES, DEDICATORY VOLUME. Edited by the Editorial Board of the Anup Sanskrit Library, Bikaner, 1944. Published by the Superintendent, Government Press, Bikaner, pp. xlii+94.

This is a small collection of Rajasthani Bardic songs, 42 in number, by way of dedication to the Royal House of Bikaner, and particularly, its present illustrious representative, through whose benefaction and patronage the series, of which the present volume is the first, is due to come into being. There are two interesting introductions, one in English by Dr. C. Kunhan Raja of Madras and the other in Hindi by Professor Narottam Das Swami of Bikaner. The latter leads one to hope that the Professor would, in the near future, draw upon his deep learning and publish a systematic and adequate introduction to the subject which is of great importance to whoever is interested in Indian literature, and the 'trumpet notes' of war and chivalry the world around. Bikaner has a place all to herself. The bouncing beauty of her intonation of the martial language favoured by her bards cannot be reproduced on paper. The proper chanting of Rajasthani songs is a most difficult art: it is fast becoming one of the lost arts of India. While a few, all too rare, Charans of the old school are still alive, every up-to-date device might be adopted to preserve accurate records of the manner of utterance which quickened the pulse of an entire people and which was not quite the same in any two States, even in Rajasthan. The gramophone may catch what the printing press must miss.

Every song in this small collection has the beauty of virile rhythm and balanced composition. Some reveal a fairly high degree of inspiration. But the volume is frankly dedicatory. Nobody in Bikaner or outside need grudge such a start. The little book should be doubly welcome, for its own sake and for its promise to be 'the precursor of a useful and popular series which will not only show to the world the rare beauties of ancient Rajasthani literature, but will be an inspiration and encouragement to the literary workers in Hindi and its dialects'.

K. P. KHAITAN.

MADRAS GOVERNMENT ORIENTAL MSS. SERIES: No. 5—RATNEŚVARA-PRASĀDANA, a Sanskrit drama. By GURUKĀMA KAVI: Printed and published by the Sri Balamanorama Press, Mylapore, Madras, 1939, pp. 108. Price Re.1-2-0. No. 11—DAMARUKAM, a Sanskrit farce. By Paṇḍita GHANAŚYĀMA. Printed at the Sri Vani Vilasa Press and published by the Sri Sankara-gurukulam, Srirangam, 1940, pp. 33+2. Price As.8. Both edited by VIDYĀSĀGARA VIDYĀVĀCASPATI P. P. SUBRAHMANYA SASTRI, B.A. (Oxon), M.A. (Madras), Professor of Sanskrit and Comparative Philology, Presidency College, Madras and Curator of the Government Oriental MSS. Library, Madras.

Sanskrit literature, ever since classical Sanskrit became established as the culture language of Hindu India during the middle of the first millennium B.C., has

continued to our day as a living tradition, and throughout the entire course of some 2,500 years there has never been any break or weakening in this tradition, when we think of India as a whole. As in all things human, there were vicissitudes in the history of Sanskrit culture in different parts of the country, but the output of Sanskrit literature even in post-classical times, i.e. after the conquest of North India by the Turks and the establishment of Muslim States over the greater part of the country, is astonishing in both extent and quality. And there were times when with the revival of Hindu political power in parts of the country there was a corresponding revival of literary endeavour in Sanskrit, as a result of which poets, philosophers and other writers came into being whose contributions rival those of the best productions of the classical ages. In South India, under the auspices of the Vijayanagara emperors (1336-1565), Sanskrit learning underwent a great revival, but after the disastrous battle of Talikota, which destroyed this great bulwark of Hinduism, it seemed Hindu life and culture including the writing of works in Sanskrit would receive a great check in South India. The South, however, survived the shock, and in the late sixteenth, seventeenth and eighteenth centuries, under the Telugu Nayaks and the Maratha rulers at Madura and Tanjore and elsewhere, Brahman and other scholars once again came forward and by their compositions shed new lustre to the Sanskrit scholarship of India. Appaya-dikshita, Śrinivāsa-dikshita, Tātāchārya, Nilakaṇṭha-dikshita, Rājachūdāmaṇi-dikshita, Bhaṭṭoji-dikshita, Rāma-kavi or Gururāma-kavi, Ācā-dikshita and others were eminent Sanskrit writers of the seventeenth century followed by others equally eminent in the eighteenth. A full history of Sanskrit literature of these late medieval and early modern times in South India would be quite an extensive work, and we can form some idea of it from Professor Krishnamacharya's well-known History of Sanskrit Literature. It must be admitted, however, that a great deal of this literature is derivative or imitative, and the works usually do not evince any freshness or originality; but the scholarship and ingenuity of the writers cannot be doubted, and connoisseurs of Sanskrit literature cannot fail to be struck frequently by the easy flow of their lines and by many a striking sentiment and idea. The works of these worthies should not remain for ever buried in MSS. in the different collections in India, but should be printed and given out to the world to enable us to form an appraisal of Indian culture as reflected in the minds and susceptibilities of her intellectual elite, viz. her Sanskrit scholars. Already a good few of these Sanskrit writers of South India are in print. Some names, such as those of Appaya-dikshita, Bhaṭṭoji-dikshita, Nilakaṇṭha-dikshita, and the great Jagannātha-panḍita who settled in North India, have obtained all-India celebrity, and are held in honour wherever Sanskrit is studied. But the other worthies should also come to their own, through the publication of their works. We have received for review two of such works, ably edited by one of the most distinguished Sanskrit scholars of South India at the present day, Professor P. P. S. Sastri, well known, among other things, for his very valuable and very handy edition of the Southern recension of the *Mahābhārata*.

The *Ratneśvara-prasādana* was written by Rāma-kavi, or Gururāma-kavi, probably early in the seventeenth century. Five dramas by this author are known. The drama is in the usual classical style, in both Sanskrit and Prakrit, and hinges round a love story of the usual courtly type. Yet it has got literary merits of a high order. To quote our editor: 'The easy flow of style, the graceful delineation of the characters and the delightful imitation of the words, phrases and moods of standard authors like Kālidāsa and Bhavabhūti, which sometimes make us wonder whether the imitator or the imitated is the greater poet—all these combine to make Gururāma a poet and dramatist of the first magnitude.' The work has been edited from four MSS., and a modern commentary by Kṛṣṇa-sūri, prepared at the instance of Professor Sastri, is printed at the end. It is a well-edited and well-printed book, and will delight all lovers of Sanskrit literature.

The *Damarukam* is a *prahasana* or farce by Paṇḍita Ghanaśyāma, who flourished in the court of Tukoji of Tanjore during the first half of the eighteenth century. The author says a good deal about himself and his attainments and indeed he was held in high esteem for his proficiency in the language of the Gods. The work is in ten

alankāras, and is more a collection of *subhāṣitas* by the author on various topics than a real-dramatic farce. The work is edited from a single MS., but a commentary on it by Chandraśekhara, printed at the end, gives some better readings which are duly noted.

We hope many more of such works will be made available to the public, which will feel grateful to the editors and the publishers for their disinterested services to the literature and culture of India.

SUNITI KUMAR CHATTERJI.

THE CALCUTTA SANSKRIT SERIES, No. XXVIII: THE GṚHYA-SŪTRAS OF GOBHILA: Vol. II. English translation, with copious notes, introduction and indices, by VANAMĀLI VEDĀNTATĪRTHA, M.A. Metropolitan Printing and Publishing House, Ltd., Calcutta, 90 Lower Circular Road, 1940-1941, pp. xiv+170.

The Calcutta Sanskrit Series is already well known to interested scholars for the excellent and erudite editions of a variety of important Sanskrit texts published in it, and the present work, though in English, is quite in keeping with the high quality of the edition of the texts which have so far appeared. The *Gobhila Gṛhya-sūtra*, an important work on domestic rites, rituals and ceremonies of the Aryans of the late Vedic age, forms the basis of the Vedic rites in use among the Brahmans in Bengal belonging to the Kauthumi branch of the Sāmaveda. The original text has been printed several times—in 1871-1880 from the (Royal) Asiatic Society of Bengal in the *Bibliotheca Indica* by MM. Chandrakānta Tarkālāṅkāra with a commentary of his own, republished in 1908; in 1884 by F. Krauer from Dorpat and Leipzig; in 1886 from Calcutta by Satyavrata Sāmaśrami with his own gloss and a Bengali translation; and again from Calcutta in the *Calcutta Oriental Series* (as No. 17), with a Sanskrit commentary by Bhaṭṭa-Nārāyaṇa, edited (with an introduction by Vanamāli Vedāntatīrtha) by Pandit Chintāmaṇi Bhaṭṭāchārya; besides an incomplete edition with a Sanskrit gloss and a Bengali translation by Dayālakṛishṇa Tarkatīrtha, Sylhet, 1931. There is an English translation of the *Gobhila Gṛhya-sūtra* by H. Oldenberg in the *Sacred Books of the East* series (Oxford), published in 1892. Prof. Vedāntatīrtha thus explains the reason for bringing out the present version: 'The present English translation is primarily meant for people educated in Indian universities, be their interest religious, social or anthropological.' His endeavour has been 'to make the reader fully understand the language and enter into the spirit of the old ṛsis, and their medieval and modern commentators'.

The translation appears to have been made with very great care, and one is filled with admiration for the translator for his common-sense and objective approach to the study of an old text, not wholly divorced from a spirit of reverence and sympathy without which we cannot properly understand and appreciate a document of human life and culture. He generally takes the original by itself, but he does not neglect traditional explanations when these appear to be reasonable and sensible, and to preserve the spirit or purport of the original. This attitude has a great deal to be said in favour of it, particularly when in the spirit of an over-zealous objectivity the ancillary help of tradition is apt to be ignored by Western scholars who have no living touch with this tradition. Professor Chakravarti has appended plentiful footnotes elucidating the translation, and these form a valuable commentary to the text, materially aiding us in its understanding and appreciation. The *Gṛhya-sūtra* gives a very detailed picture of the daily life of an Aryan householder of the first millennium B.C., with all religious rites and ceremonies which he has to perform at important social functions, and by itself a work of this type has an important documentary value. A most well-written introduction, a detailed and analytical list of contents, and two indexes in English and in Sanskrit giving titles of all topics discussed and all matters treated, add to the value of this edition. Indeed, Professor Vedāntatīrtha has been fully alive to the importance of the *Gobhila Gṛhya-sūtra* for students of religion, sociology and anthropology, and we can congratulate him on giving out to the scholarly world such a useful work.

SUNITI KUMAR CHATTERJI.

PŪṢAN IN THE RIGVEDA. By SAMUEL D. ATKINS. Being a dissertation accepted (January 1941) by the University of Princeton, U.S.A., for the degree of Doctor of Philosophy. Published by the author in 1941 from 28 Edwards Place, Princeton, N.J., U.S.A., pp. xiii+102. Price One Dollar Fifty Cents.

This is quite a useful contribution to our study of Vedic religion in one of its aspects, done in the best possible style. The author has made a specialized study of one of the comparatively minor deities in the Rigveda, and he has considered all the passages in the Rigveda referring to Pūṣan (which he has appended to his 'Interpretation' of Pūṣan, with translation and full philological and other exegesis). Dr. Atkins has discussed the various explanations of Pūṣan by previous workers in Vedic religion and the Veda, and he has considered Pūṣan as a Solar God, as a Pastoral God, as a God of Paths, and a God of Wealth and Benevolence, and has dealt with the relationship with the other deities in the Vedic pantheon, and finally he has given his own conclusion. He is not satisfied with the Indo-European derivations proposed for the name *Pūṣan*—one would be tempted to accept the connection with the Greek *Pān* (Arcadian *Pāōn* < **Pāusōn*: cf. Vedic *Uṣas* = Greek *Aōs* < **Āūsōs*) as proposed by several scholars, considering certain agreements in the conception of these two deities, *Pūṣan* and *Pān* in India and Greece—and he accepts the traditional derivation that *Pūṣan* is an agent noun based on *puṣyati* 'cause to thrive, make prosper', plus the rather rare suffix *-an*. This, as the author says, is essentially the view also of a number of other scholars, among whom are Grassmann, Uhlenbeck, Macdonell and Bloomfield. Dr. Atkins thinks that the word is a symbolic name meaning 'Prosperer, Bestower of Prosperity', possibly symbolizing the bountiful nature of the Sun, and regards *Pūṣan* as having originally started as the solar deity of a pastoral people, consequently as a deity with pastoral characteristics and functions and the functions of a god of paths, all inherent in his nature and developing more or less contemporaneously. Other secondary characteristics and functions gradually came to be connected with him. He is associated with Indra, Soma, etc. mostly because his worshippers desired to dignify him in the eyes of others. The rôle of *Pūṣan* in the other Vedas and the Brāhmaṇas has not yet been properly enquired into.

It is a simple objective study of a Vedic deity, and the problem is difficult of solution historically. It would appear that there is not much to be said on *Pūṣan* after this work. Dr. Atkins has added to the value of his little book by giving an index of epithets applied to *Pūṣan* and a list of problematic words occurring in the Rigveda verses connected with *Pūṣan*.

SUNITI KUMAR CHATTERJI.

A SHI'ITE CREED. By ASAF A. A. FYZEE. Islamic Research Association Series No. 9, pp. xiii+144. Oxford University Press, 1942.

This is a valuable addition to the Series published by the Islamic Research Association, Bombay, and students of the religion of Islam have reason to be grateful to Dr. Fyzee for bringing out an excellent English translation of the Arabic *Risālat-u'l I'tiqātu'l Imāmīya* of the well-known Shi'ite doctor, Abū Ja'far Muḥammad b. 'Alī Ibn Bābawayhi al-Qummī, better known as Shaykh Ṣadūq, who, as stated by the translator, 'was the author of the "Four books" and is universally regarded among the Ithnā 'Asharī Shi'a as a great authority'.

While admitting that within recent years considerable advance has been made in our knowledge of Islam in general, Dr. Fyzee regrets that 'not very appreciable advance has been made in our knowledge of Shi'ite history, philosophy and law'. He adds:

'The creed of Islam cannot be understood by the study of the "Sunnite" element only; to this must be added the inquiry into the Shi'ite counterpart. The uses of such a study are many, but their different aspects may here be stressed. Such a study would clarify many historical questions; it would give us an insight into the logical controversies—for, these are not always barren,

fanatical and personal, but indications of general trends of thought; and finally, it would tend to the solution of the problem of legal distinctions that puzzle some of the foremost jurists.'

Few will have reason to disagree with Dr. Fyzee. No history of the development of Shi'ism can be written unless the vast material available is edited, published and translated. Dr. Fyzee has undertaken the task and has placed before us an English translation of a very important work on the Shi'ite creed. In the Introduction he has discussed the importance of the work and given a critical account of the life of the author and also enumerated the many works which he composed, including a number of those whose copies do not seem to be extant.

The original work is divided into 45 chapters and treats of such subjects as the Unity of Allāh (Chap. 1), the attributes (Chap. 2), Allāh's Intention and Will (Chap. 6), Destiny and Decree (Chap. 7), Human Capacity (Chap. 9), Souls and Spirits (Chap. 15), Allāh's Justice (Chap. 24), the Reckoning and the Scales (Chap. 28), 'Alids (Chap. 41), etc. The translator adds useful explanatory notes on almost every page.

The book ends with very valuable indices of: (a) Quranic verses, (b) Subjects discussed, (c) Names and Titles, and (d) Technical terms.

M. M. HAQ.

THE VEDĀNTA PHILOSOPHY OR BRAHMA SŪTRA. By SRIDHAR MAJUMDAR, M.A., with a Foreword by Prof. Kokileswar Sastri. Second Edition, Calcutta, 1938.

In this work, the author gives in simple clear English an exposition of the Brahma Sūtra of Bādarāyana from the standpoint of Nimbārka explained in his 'Vedānta-Pārijāta-Saurabha', without however attempting an exact literal translation of that work.

As is well known Śaṅkara's views, while exerting the most profound influence on Indian philosophical thought, led to a strong reaction against his extreme Advaitism from more theistically minded or devotional thinkers during the ninth-sixteenth centuries, of which the system of Nimbārka is one of the most well-known. He was a Tailainga or Andhra Brahmin and very little seems to be known of his exact parentage and birth-place.

Nimbārka's philosophical ideas were elaborated in his well-known commentary of the Brahma Sūtras known as Vedānta-Pārijāta-Saurabha and in the Vedānta-Kaustubha of his immediate follower Śrīnivāsa.

Nimbārka's doctrine is known as Svābhāvika-Bhedābheda-vāda and according to him both Brahman and Jīva-Jagat are real and while the latter can lay no claim to a separate existence from the former, yet as the effect is different from the cause, in the same sense is the Many different from the One and their difference is as fundamental as their non-difference. Without departing from the fold of the Vedantic thought, Nimbārka seeks to find a place for the devotional mind by the destruction of narrow egoity, but not by the annihilation of the individual soul.

The author, who is a follower of Nimbārka and appears to be a member of the Vaiṣṇava sect, attempts to explain the main tenets of Nimbārka's doctrine for the benefit of the English-knowing public without adequate knowledge of Sanskrit. It is done in simple unostentatious language and I have no doubt it will help in the propagation of Nimbārka's thoughts.

ROMA CHAUDHURI.

INTRODUCTION TO INDIAN TEXTUAL CRITICISM. By S. M. KATRE, M.A., Ph.D. (London), Professor of Indo-European Philology, Deccan College, Post-Graduate and Research Institute, Poona, Editor, *New Indian Antiquary*. Demy 8vo, pp. 1-148. Price Rs.3-8-0. Karnatak Publishing House, Bombay.

This is an interesting little book on a subject which has not so far attracted the attention it deserves at the hands of Indologists. It is a painful truth that though numerous Sanskrit texts have been published, in very few of them strict

scientific principles have been followed in dealing with the manuscripts on which the editions are based. Haphazard reference to a number of variant readings from several manuscripts that have easily come to hands is generally considered to be the essential requirement of a scholarly edition of a text. It is rather curious that even learned institutions do not insist on any principles to be observed and works published by them not infrequently suffer from the defect referred to. It is true there are honourable exceptions and some of the editions—though the number is small—are quite ideal in every respect. In these latter we have examples of the practical application of the general principles to which reference is made in the introductions. But there is no independent work dealing with the principles as such and the work under review removes that keenly felt want.

In eight chapters it discusses the main factors on which the attention of the scholars should be fixed in properly using materials for a critical edition of a particular work. It begins with a rather sketchy account of manuscripts—the materials on which they were written and the manner of their copying. It is somewhat strange that while all the other chapters are well-documented this introductory chapter does not in many cases refer to the sources of particular pieces of information. Mention has been made of 'the story of a Benares Pandit going to Nadia in the middle ages and bringing back the entire text of a famous classic of the Navyanyāya School in his colossal memory' (p. 14). In the absence of any indication of the source of information it is difficult to verify the authenticity of the statement; but a story current in Bengal refers to a Bengal Pandit, Vāsudeva Sārvabhauma, going to Mithilā and coming back with the same achievement to his credit.¹ Of authors trying to get copies of their compositions prepared during their lifetime, no one has been mentioned by name (p. 16). Reference may be made to a recent author (nineteenth century) who, it is reported, offered five rupees to any one who would make a copy of his commentary on the *Mugdhabodha* (composed in 1836 A.D.).²

Of copying undertaken as a religious duty (to which no reference has been made in the book) for presentation to temples and to saints and scholars there are numerous instances as evident from what are called post-colophon statements or *prāśastis*³ in manuscripts. Mercenary copyists also were not unknown and many manuscripts record the prices for which they were sold.

Topics dealt with in other chapters of the work are: kinds of texts, some fundamental aspects of textual criticism, problem of critical recension, causes of corruption in a transmitted text, emendation, some canons of textual criticism, and practical hints on the editing of texts. There are quite a good number of works in European languages which have made detailed study of these problems. Dr. Katre has made use of many of them⁴ and tried to adapt the principles evolved by them to conditions peculiar to Indian texts, in the light of the work done by Indologists.

There are three appendices. Appendix I gives a glossary of important terms (mainly European) used in textual criticism. Though a number of Sanskrit terms have been included one would miss many like the following: *Kākapāda*⁵ (caret), *puṣpikā* (colophon), *grantha* or *śloka* (used to indicate a unit of 32 syllables) and *tripāṭha* (sometimes used to refer to that form of writing in which a bigger margin is left in the middle portion of a page generally containing the text as distinguished from the commentary which has a smaller margin).

Appendix II, the most important of the three, contains a chronological list of catalogues of Sanskrit manuscripts compiled in and outside India between 1800

¹ S. C. Vidyabhushan—*History of Indian Logic*, p. 462.

² B. N. Banerji—*Saṁvādapatre Śekāra Kathā*, Vol. II, p. 114.

³ Many of these are quoted in the *Prāśastisaṁgraha* (Ahmedabad, 1930). For a different interpretation of the term *prāśasti*, vide p. 94 of the work under review.

⁴ One of these works, that of F. W. Hall, has been referred under two slightly different titles in two different places of the work (p. 30 n. and p. 139). One important work which is not mentioned by Dr. Katre is Clarke's *Descent of Manuscripts*.

⁵ The term is given as *kākapāda* on p. 11 of the work. It may be noted that the omitted portions are generally given in the margin prefixing or affixing to them the number of the line (counting either from the top or from the bottom according as the omitted portions are given at the top or the bottom) in which the omission occurs.

and 1941. This is a valuable contribution to the study of manuscripts, made by Mr. P. K. Gode, one of the few living specialists in the subject.¹ In spite of a few errors and omissions, here and there, this gives a broad outline of the history of the study of manuscripts. It is regrettable that none of the big manuscript libraries in India is equipped with anything like a complete collection of all printed catalogues making it difficult to prepare an exhaustive bibliography.

Appendix III gives an account of fifteen important manuscripts and collections of manuscripts as also eleven critical editions of manuscripts. Evidently the list is only illustrative and not exhaustive.

The labours of the learned author will be fruitful if the work succeeds in awakening an interest in the subject among all scholars engaged in the work of editing old texts. The universities may do much in the matter by prescribing the book in post-graduate studies in Indian languages, especially in Sanskrit.

CHINTAHARAN CHAKRAVARTI.

DOCTRINE OF SAKTI IN INDIAN LITERATURE. By DR. PRABHAT CHANDRA CHAKRAVARTI, M.A., P.R.S., Ph.D., Asutosh Professor of Sanskrit, Calcutta University. General Printers and Publishers, Ltd., 119 Dharamtala Street, Calcutta. Price Rs.5.

'Doctrine of Sakti in Indian Literature' by Dr. Prabhat Chandra Chakravarti, M.A., P.R.S., Ph.D., Asutosh Professor of Sanskrit, Calcutta University, has a melancholy interest. The author did not live to complete the book. He died at the early age of 45. He had planned to write a comprehensive history of Indian culture in all branches and the present book was meant as a mere collection of materials to be worked up into a system gradually. But it was not to be.

Dr. Prabhat was born in a family of hereditary *Gurus*, whose privilege it was to initiate people into Tantric *Sakti* worship, which is a living faith in Bengal. A book on 'Sakti' from the pen of such a man and scholar is very welcome. It is a sign of the time that Pandit Panchanan Tarkaratna's *Sakti-bhāṣya* on the *Brahma Sūtras* has also been published almost simultaneously. Lovers of Indian wisdom will find much to set them thinking in these volumes.

The headlines of the different chapters will show how the author had proposed to follow the theory of Sakti in its development from Vedic to later Tantric literature. The Sanskrit quotations and their English renderings will be useful to those who want to study the subject in original.

VANAMALI VEDANTATIRTHA.

GLORIES OF MARWAR AND THE GLORIOUS RATHORS. By MAHAMAHOPADHYAYA PANDIT BISHESHWAR NATH REU; with a Foreword by Bada Maharaj-Kumar Shri Hanwant Singhji Sahib, Heir-Apparent of Jodhpur. Published under orders of the Jodhpur Darbar (1943), pages lxiv+273, with photographs of His Highness the Maharaja Shib Bahadur of Jodhpur and of five letters and two Sanads. First Edition. Price Rs.3-4-0 only.

The foreword probably best describes the book in these words: 'This volume in addition to a brief history of Marwar contains a number of his articles, based on original researches, which the author has read at various historical conferences from time to time.'

The historical portion, as a narrative of the glories of Marwar, is disappointing. It is contained in 64 pages (i to lxiv) and is hardly anything more than a list of

¹ A list of notes and papers, scattered over various journals, giving detailed accounts of manuscripts is still a desideratum. Mr. Gode will be doing a real service to scholarship by compiling that list and making his bibliography complete in every respect.

the Rathor kings with a mention of some of the most important events of their respective reigns. The other portion of the publication consists of miscellaneous notes and documents and is to be found in the four appendices. The original documents which have been published include Sanads relating to Raisina or New-Delhi and a letter of Maharaja Ranjitsingh of the Punjab, addressed to Maharaja Mansingh of Marwar, which, apart from their historical value, are documents of striking interest to lay readers. The other documents are likely to be of interest mainly to historians. The articles and comments of the learned writer interspersed throughout the book make no secret of the profound loyalty of the writer to the ruling house of Marwar, and he has boldly thrown out challenges in many directions which may lead to controversies among the supporters of rival ruling families of Rajputana and beyond. Yet one misses prominent or even passing mention of the glories of Marwar other than the chivalry of the Rajputs. Members of the other castes also covered themselves with glory in the history of Marwar. The arts, literature, monuments of architecture, manners and customs, and the rugged beauty of the land itself and its famous lakes also are amongst the glories of Marwar and deserved suitable mention. In passing, the writer of this review, cannot resist the temptation of making a reference to a beautiful hymn in the Sam Veda which hints at the resplendent peacocks and horses, the hunts, and the mazes of the sand-hills of the desert country. (Sam Veda, Uttararchika, 19th chapter.)

So much have the old controversies subsided amongst the rank and file of Rajasthanis that outside Rajasthan the word 'Marwari' has been adopted as a convenient way of referring to all who have come from Rajasthan, whether from Marwar or not. Comparatively, few 'Marwaris' are of 'Marwar': and if 'Marwaris' have any achievements to their credit, they do not mind the glories being added to the 'Glories of Marwar'.

K. P. K.

FOLK TALES OF MAHAKOSHAL. By Verrier Elwin. Pages i-xxv+1-523. Oxford University Press. Rs.15.

FOLK SONGS OF THE MAIKAL HILLS. By VERRIER ELWIN and SHAMRAO HIVALE. Pages i-xxix+1-410. Oxford University Press. Rs.15.

These two volumes are 'the first of several which will assemble and preserve for English-speaking readers specimens of the oral literature of Middle India'. They thus represent a very significant and important contribution to the literature on Aboriginal India.

The first volume presents tales collected from certain districts in the Central Provinces and from Indian States, such as Rewa and Bastar. They have been collected directly from members of aboriginal tribes and are truly oral specimens which could not have been derived from printed sources. In the introduction Dr. Elwin surveys the chief collections of Indian folk tales hitherto recorded and points out many serious faults, particularly the habit of Bowdlerization. In a few cases tales had been copied directly from literary texts. He points out that the translations of true folk tales are often 'so literal as to be almost unreadable or so written up and elaborated' as to bear no relation to the original. The author has decided 'to treat all the stories as if I were translating poetry; . . . no extra words, no fresh images, no alien ideas'.

The folk tales are classified under 26 different heads although, of course, there is much overlapping and some of the stories could easily fit into many differing classifications. Each chapter has a brief introduction and usually closes with a series of notes which throw a flood of light upon certain difficult allusions or customs. Frequently parallels in other folk literature are pointed out, but there is always something new added. It has been estimated that until now only some 3,000 stories from India and adjacent countries were available in print to Western readers. There are 150 tales in this collection alone. Each story here has a notation to link it to a definite tribe and place. Dr. Elwin's superb English style has enhanced the value and appeal of the book.

The second volume contains some 619 songs of varying lengths. The introduction, as in the previous volume, makes a valuable contribution to primitive life and its interpretation. There is a discussion of conditions prevailing today which work against the perpetuation of the folk songs of primitive peoples. W. G. Archer, in his valuable book 'The Blue Grove—the poetry of the Uraons', set an entirely new standard of work from the point of view of the translation and appreciation of primitive poetry. Dr. Elwin has profited by this and has himself gone several steps further in bringing into the picture many new and important considerations. Dr. Elwin says, 'This collection is offered as a collection of songs rather than of poems'. The songs are first classified according to type (Karma, Rina, Sua, Saila, Dadaria) and examples of each are given. Then follows an arrangement according to motif: love songs, marriage and its songs, cradle songs, songs of married life, songs of craft and labour, social and political songs, festival songs, and the like. It is pointed out that verse is wedded to the dance and in most of the songs depends on it. As wide a sampling as possible has been made and the whole cycle from birth to death is covered, not to speak of the concomitant activities.

The songs, more than the tales, bear upon everyday life. The tales are laid in the imagination and are unreliable sources of tribal custom. Aboriginal life is much stricter than the tales would probably lead one to think. But in the songs one senses something more true to life. Some are rich in meaning and symbolism and others are difficult to make anything of and their inclusion would hardly seem worth while. But primitive people do not see things as we do. Dr. Elwin interprets many of the songs and makes it easier for one not used to primitive thought to get a hint of the idea behind the words. However, there is the temptation and danger to look for hidden meanings where none exist.

Taken together, these two books throw a flood of light upon primitive peoples. We see something of the dream lands in which they reveal with their murder, trickery and lust. But rarely does this break out into everyday life. We also are led to appreciate something of the complexity of their culture commonly called 'primitive'. In the poems their hearts are opened to us, and we can get a glimpse into what they value most and how their life is lived. It is to be hoped that these exciting books will get the hearing they deserve and will create in the minds of many a new appreciation and respect for Aboriginal India.

W. G. GRIFFITHS.



The Maukharis and the Later Guptas.

By DR. DINES CHANDRA SIRCAR.

There are reasons to believe that the early members of the so-called Later Gupta dynasty¹ were rulers of East Malwa and the adjoining regions, while their Maukhari contemporaries reigned over parts of Bihār and U.P. Some Later Gupta kings are represented in Bāṇa's *Harṣacarita* as *mālavarāja*, i.e. King of the Mālava country. The name Mālava, unqualified with words like *pūrva* and *apara*, is known to be explained as *pūrva-Mālava*, i.e. East Malwa, in the commentary on Vātsyāyana's *Kāmasūtra*, 6.5.24. West Malwa, moreover, appears to have been under the Aulikara kings of Mandasor at least up to the middle of the sixth century A.D.² Both the Later Guptas and the Maukharis were at first feudatories of the Imperial Guptas and the two dynasties were originally friendly towards each other. There is some evidence to show that the two families contracted several matrimonial relations.³ About the middle of the sixth century the dynasty of the Imperial Guptas, in whose cause the Maukharis had been fighting with the Gaudas,⁴ totally collapsed and left the Maukharis in practical

¹ There is no evidence of this dynasty having been an offshoot of the Imperial Gupta family. This royal family is never known to have been called a 'Gupta' dynasty. A prominent member of the family has the name Ādityasena which does not end in the word *gupta*. The name 'Later Gupta' applied to this dynasty therefore appears to be a misnomer.

² Hiuen Tsang's Mo-la-po may have represented the old kingdom of the Aulikara family to which Yaśodharman belonged.

³ Harṣaguptā and Upaguptā, grandmother and mother of Maukhari Isānavarman, are supposed by scholars to have been Later Gupta princesses, the former possibly being a sister of Harṣagupta.

⁴ Cf. Haraha inscription, v. 12 (*EI*, XIV, pp. 115ff.): कला चायतिमोचितस्त्रलभुवो गोडान् समुद्रायान्. Dr. H. Sastri prefers मोचित० and translates, 'after causing the Gaudas, living on the seashore, in future to remain within their proper realm'; but Dr. R. G. Basak has, '[Isānavarman] made the Gauda people take shelter towards the seashore, after causing their land territories to be deprived of their future prospects'. The defect of these interpretations is that the Gaudas never lived on the seashore (cf. the *Bhavisya P.* and Hiuen Tsang indicating the home of the Gaudas about the Murshidābād Dist.) and that the sea can hardly be the shelter of a people living on the shore. The correct interpretation of the exaggerated claim, as I have pointed out elsewhere, is that Isānavarman drove out the Gauda people 'for the future' (= for all ages to come = permanently) from the dry land and compelled them to take shelter into the waters of the sea. The Gaudas are known to have been a seafaring people (cf. the case of *mahānāvika* Buddhagupta, an inhabitant of Raktamṛttikā in Gauda in a record of the Malay Peninsula; Chatterjee and Chakravarti, *India and Java*, II, p. 7) and the Maukhari court-poet cleverly related one of their national characteristics to his own patron. This is a quite well-known practice in Indian literature; cf. *Rāj. Tar.*, IV, 179-8, for Turuṣka and Dravidian practices related to Lalitāditya:

बन्धमुद्राभिधानाय पश्चाद्वाह तदाज्ञया ।

तुषष्का दधते यन्तं मूर्धनश्चार्द्धमुपितम् ॥

क्षितिभृद्दाक्षिणात्याणां तिर्यक्लज्जापणाय सः ।

पुष्पं महीतल्लस्यसि चक्रो कौपीनवाससि ॥

Dr. R. C. Majumdar (*IC*, XI, pp. 123f.) has recently characterized the passage चायतिमोचित in चायतिमोचितस्त्रलभुवः as a 'very unusual expression' and would read it differently as अग्रतिमोचित. The passage is, however, not unusual at all; it is

possession of large parts of Bihār and U.P.¹ The Later Guptas now became jealous of the position of their old friends and declared war against them.

Kumāragupta (c. 550 A.D.) of the Later Gupta dynasty defeated the Maukhari king Īśānavarman (c. 545-60 A.D.)² and extended his influence as far as Prayāga (Allahābād)³ in the north-east. After the death of Kumāragupta, however, the same Īśānavarman⁴ defeated and killed Dāmodaragupta,⁵ son and successor of Kumāragupta. The success of the

easily explained by the rules of Sanskrit grammar: आद्यतिमोचितस्यलभुवः = भाविकालं

त्याजितस्यलभुवः। स्यलभुः स्यलभुः। मोचिता त्याजिता। मोचिता स्यलभुः यैः तान् मोचितस्यलभुवः। आद्यतये मोचितः आद्यतिमोचितस्यलभुवः (चतुर्थीति योगविभागात् समासः)।

Īśānavarman was the first independent ruler of the family. His exploits are described in both the Haraha and Jaunpur inscriptions. The victories referred to in the Jaunpur record are usually but wrongly ascribed to Īśavaravarman, father of Īśānavarman.

¹ The latest Imperial Gupta record is the fifth Dāmodarpur grant dated in A.D. 543. The Jain *Harivamśa* by Jināsena, which (Ch. 60) says गुप्तानाञ्च शतद्वयमेकचिंशच्च वर्षाणि। कालविद्विषदाहृतम्, etc., apparently assigns the collapse of Imperial Gupta power 231 years after the foundation of the Gupta era in 320 A.D., i.e. to A.D. 551. See Raychaudhuri, *Pol. Hist.*, pp. 531ff. The decline of the Imperial Guptas in Bihār and Bengal was mainly due to the rise of the Gaudas under mighty rulers like Gopacandra. See my notes in *IHQ*, XIX, pp. 272-81.

² Cf. Apsad inscription, v. 8 (*CII*, III, pp. 292ff.):

उत्सर्पद्वातहेलाचलितकदलिकावोचिमास्त्रावितानः

प्रोद्यद्भूजौजलौघधमितगुहमहासमातङ्गशैलः।

भौमः श्रीशानवर्मलक्षितपतिशशिनः सैन्यदुग्धोदसिन्धु

लक्ष्मीसंप्राप्तिहेतुः सपदि विमथितो मन्दरौभूय येन ॥

³ Cf. *ibid.*, v. 9:

शौर्यसत्यव्रतधरो यः प्रयागगतो धने।

अश्वसौव करीषायौ मघः स पुष्यपूजितः ॥

⁴ Cf. *ibid.*, v. 11:

यो मौखरीः समितिषूदतरुणैरन्या वल्गादुघटा धिघटयन्नुत्त वारणामाम्।

संमूर्च्छितः सुरवधूर्वरयन् ममेति तत्पाणिपङ्कजसुखस्यशोद्दिबुद्धः ॥

Apparently Īśānavarman, who is mentioned by name in v. 8 above, has here been naturally referred to by his dynastic appellation. There is no reason to believe that Śaravarman is here indicated. At least the suggestion does not appear to be quite in keeping with the spirit of the language of the record. The Maukharis possibly fought with the Huns as feudatories of Bālāditya of the Imperial Gupta family.

⁵ Cf. the verse quoted in foot-note 4. The reference to the *suravadhū*, celestial damsels, in the passage सुरवधूर्वरयन् ममेति appears to suggest that Dāmodaragupta died a hero's death on the battlefield. According to the ancient Indian military convention, a hero dying in action inevitably goes to heaven and enjoys divine girls. The above passage seems to be an echo of *Mbh.*, XII, 98, 44-47: आहवे तु हतं शूरं न शोचेत कश्चन। अशोचो हि हतः शूरः स्वर्गलोके महीयते।... वराधरासहस्राणि शूरमायोधने हतम्। त्वरमाणानि धावन्ति मम भर्मा भवेदिति। etc. Note especially the last line. Cf. also *Rāj. Tar.*, VII, 1436, 1479; VIII, 197, 453, 472, etc. Mr. K. C. Chattopādhyāya's suggestion that Dāmodaragupta simply fell into a swoon (संमूर्च्छित) but awoke (विबुद्ध) soon after, cannot explain satisfactorily the *suravadhū-varaṇa*, which seems to have been possible only when the king reached heaven after death. The court-poet admits that the Later Gupta king entered the abode of the heavenly damsels after having been संमूर्च्छित. The poet possibly suggests that the king awoke in heaven in the embrace of the *suravadhūs*; cf. *Rāj. Tar.*, VIII, 453:

विदद्मो स तु तद्योधैर्हैतैश्च परिषस्त्रजैः।

अदिवैर्मैदिनी दिवैर्देवैस्त्वत्परसां गणः ॥

Maukharis against the Later Guptas about this time is further indicated by the fact that Śarvavarman (c. 560–75 A.D.), son of Īśānavarman, is known to have held sway over Bundelkhand in Central India.¹ Mahāsenagupta, who was the son and successor of Dāmodaragupta and who allied himself with the Puṣyabhūti of Thanesar, led successful expeditions in eastern India in the land between the Karatoyā and Lauhitya (Brahmaputra).² Soon, however, the Later Gupta throne was usurped by Devagupta³ and Kumāragupta and Mādhavagupta, two sons of Mahāsenagupta, had to take shelter with their Puṣyabhūti relatives. Devagupta in conjunction with the Gauda king Śaśāṅka (c. 600–25 A.D.) defeated and killed in c. 605–06 A.D. the Maukhari king Grahavarman (c. 590–605 A.D.) and the main branch of the Maukhari dynasty became extinct. The Puṣyabhūti relations of Grahavarman then took the field on behalf of the Maukharis and Harṣa (606–46 A.D.) of the Puṣyabhūti family came not only to be in possession of the Maukhari dominions, but was eventually able to subdue both the rulers of East Malwa and of Gauda. The sons of Mahāsenagupta appear to have acted as viceroys under Harṣa. We do not know whether Kumāragupta was stationed in East Malwa, but Mādhavagupta seems to have been put in charge of parts of Magadha (originally, South Bihār) after it had been annexed to Harṣa's empire. This is suggested by the fact that soon after Harṣa's death, Ādityasena

¹ Cf. Barah grant of Bhoja I Pratihāra; *ET*, XIX, pp. 17f.

² Mahāsenaguptā, mother of Prabhākaravardhana, is supposed to have been the sister of Mahāsenagupta. For Mahāsenagupta's exploits, cf. Aphaid inscription, v. 14:

शैतस्तुस्त्रितवर्षयुद्विजयस्त्राघापदाङ्गं मुञ्चत् यस्याद्यापि विबुदकुन्दकुमुदक्ष्णश्चकारश्चित्तम् ।
 लोहित्यस्य तटेषु शैतस्तुतलेप्तफुल्लनागद्रुम-च्छायासुप्तविबुदसिद्धिमिथुनैः स्त्रीतं यशो गीयते ॥

Susthitavarman was no doubt the king of Kāmarūpa, who was the elder brother of the celebrated Bhāskaravarman and ruled about the end of the sixth century.

The fact that Bhāskaravarman courted Harṣa's friendship immediately after the latter stepped into the shoes of the Maukhari rulers of the Madhyadeśa shows, as I have elsewhere suggested, that the Kāmarūpa kings had probably been in league with the Maukharis against the common enemy, the kings of the intervening realm of Gauda. A natural result of this alliance seems to be a like friendship of the kings of Gauda with the Later Guptas of East Malwa who were now enemies of the Maukharis. It seems probable that Gauda and East Malwa were allied even before the time of Śaśāṅka and Devagupta. Śaśāṅka's Rohtasgarh seal probably suggests that, like the Imperial Guptas in the earlier epoch, their Maukhari successors were ousted from Bihar chiefly by the Gaudas and that Śaśāṅka was ruling originally over parts of Magadha as a viceroy of a king of Gauda who may have been his immediate predecessor on the throne of Karnaśuvārṇa. The decline of Maukhari power in Bihār due to the success of the Gaudas must have enabled their friend Mahāsenagupta to lead an expedition to the banks of the Lauhitya (Brahmaputra) against the king of Kāmarūpa without having encountered Maukhari opposition. Probably the Later Gupta king was substantially helped by his Gauda ally in his Lauhitya expedition, as his successor Devagupta, probably a brother of Mahāsenagupta (cf. the *Harṣacarita* suggesting that the '18 year old' Kumāragupta at the Thanesar court was the eldest son of Mahāsenagupta who probably died early), afterwards received help from Śaśāṅka against the Maukharis now cornered in U.P. The Puṣyabhūti king Prabhākaravardhana, sister's son of Mahāsenagupta and the supporter of the pretenders Kumāragupta and Mādhavagupta, became an enemy of the East Mālava king (*mālavalakṣmī-latā-parasu*) and made friends with the Maukharis by offering his daughter to Grahavarman only after the usurpation of Mahāsenagupta's throne by Devagupta, which drove the sons of Mahāsenagupta to Thanesar.

³ The identification of the *mālavarāja*, who defeated Grahavarman but was himself defeated by the Puṣyabhūti king Rājyavardhana according to the *Harṣacarita*, with Devagupta, who was the most important amongst the rulers defeated by Rājyavardhana according to the inscriptions of Harṣa, has been usually accepted by scholars. The name ending in the word *gupta* seems to connect Devagupta with the family of Mahāsenagupta.

(c. 660–80 A.D.), son of Mādhavagupta, is found in undisputed possession of Magadha. He is not only called the lord of Magadha in an inscription of his relatives, the Licchavis of Nepāl, but his own inscriptions as well as those of his descendants have all been found in Magadha (modern South Bihār).¹

Some scholars believe that the Later Guptas, and *not* the Maukharis, succeeded the Imperial Guptas in the rule of Bihār. But their arguments in explaining away the epithet *mālavarāja* applied to some early Later Gupta monarchs in the *Harṣacarita* are hardly convincing. Maukhari occupation of at least parts of Bihār in the sixth century A.D. is definitely proved by the Deo-Baranārk² inscription of Jivitagupta II of the Later Gupta dynasty. This epigraph records the grant of a village by Jivitagupta II, but refers incidentally to the fact that the village originally formed a part of the dominions of Śarvavarman and Avantivarman, no doubt the Maukhari rulers of those names. It has been generally accepted by scholars that the village granted is no other than Vārunikā, modern Deo-Baranārk, 25 miles south-west of Arrah, chief town of the Shahābād District in Bihār, where the record was discovered and where apparently stood the temple of the god Varuṇavāsin in whose favour the grant was made. The evidence of the Deo-Baranārk inscription is supported by the discovery of some earlier records of the Maukharis in the Gaya District, as well as by an epigraph of the Pāṇḍuvamśī kings of South Kōśala referring to Sūryavarman, rightly identified with Īśānavarman's son of the same name, as a ruler born in the Varman family that held sway over Magadha.³ Dr. R. C. Majumdar, however, has recently pointed out that Fleet while editing the Deo-Baranārk grant was in doubt as to whether the village granted was Vārunikā or Kiśoravātaka which is supposed to be the name of

¹ Cf. the Katmandu inscription of Jayadeva Paracakrakāma; also the Shūhpur (Patna Dist.), Aphaṣṭ (Gaya Dist.), Mandar Hill (Bhagalpur Dist.) and Deo-Baranārk (Shahābād Dist.) inscriptions (Bhandarkar's List, Nos. 1402, also 1393, 1552–54). An inscription of Viṣṇugupta, a grandson of Adityasena, is known to have been recently discovered at Mangraon in the Shahābād District (*Sel. Ins.*, 1, p. 320n.).

² *Corp. Ins. Ind.*, III, pp. 215ff.

³ Cf. Śirpur (Lakṣmaṇa temple) inscription of Mahā-Śivagupta Bālārjuna (*Mahā-kosala Hist. Soc. Pap.*, II, p. 19), v. 16:

निष्पङ्के मगधाधिपत्यमवतां जातः कुले वर्मणां पुण्याभिः कृतिभिः क्षतो क्षतमनःकम्पः सुधाभोजिनाम् ।
यामासाद्य सुतां हिमाचल इव औद्धत्यवर्ष्मा नृपः प्राप प्राक् परमेश्वरश्चशूरतागर्वानिखर्व पदम् ॥

Cf. *IHQ*, XIX, p. 277, n. 11. Mr. A. Ghosh rejects the identification on the following grounds (*EI*, XXV, p. 268): (1) It is by no means certain that the Maukhari Sūryavarman ever came to the throne. [But the word *nṛpa* of the Śirpur inscription is found to be applied often to governors, petty chiefs, crown-princes and feudatories. Maukhari Sūryavarman seems to have been the *nṛpa* or ruler of the district round Haraha under his father.] (2) Sūryavarman of the Śirpur inscription is called king of Magadha. [This is wrong. The record simply refers to the *nṛpa* or ruler Sūryavarman who is assigned to the Varman family that held sway over Magadha. Excepting the Maukharis, no Varman lords of Magadha are known.] (3) The Maukharis of Harivarman's line were never a characteristically Magadhan dynasty, their headquarters being at Kanauj. [Kanauj may (or may not) have become the capital of the later Maukharis only after the success the Gaudas achieved against them in Bihār. It is unlikely that the line of Harivarman was unrelated to the Maukharis of Gayā which had a Maukhari settlement from pre-Christian times up to at least the fifth century A.D. There is absolutely no proof that Īśānavarman, father and overlord of Sūryavarman, had his capital in U.P. and not in Bihār.] Sūryavarman's daughter was married to Harṣagupta, son of Candragupta who was a brother of Tivara. This Tivara was a contemporary of Viṣṇukunḍin Mādhavavarman I (c. 535–85 A.D.) and must have ruled in the sixth century as a contemporary of Maukhari Īśānavarman. For c. 565–80 A.D. as the tentative date of Tivara, see *IHQ*, XIX, p. 144. There seems to be no palaeographical difficulty about the above dates.

another village mentioned in the same inscription.¹ Dr. Majumdar believes that the Deo-Baranārk inscription 'has gained an undue importance by being used as the principal argument in favour of the theory that the Maukhari kings Śarvavarman and Avantivarman ruled over Magadha', and remarks, 'Now, supposing that the village granted was Kiśoravātaka, we have no means to determine its locality, not even whether it was in Magadha. For all we know, it might have been in the neighbourhood of Gomatikottaka [where stood] the royal camp from which the grant was issued. Fleet has suggested that this place "must evidently be looked for somewhere along the river Gomati, the modern Gomati or Gumti, which flows into the Ganges about half-way between Benares and Ghazipur, and about 85 miles to the west of Deo-Baranārk". It is not impossible that this village was in U.P. . . .'. In Dr. Majumdar's opinion therefore the Deo-Baranārk inscription does not prove the possession of Magadha or any part of it by the Maukhari kings Śarvavarman and Avantivarman (c. 575-90 A.D.). It will, however, be seen that Dr. Majumdar has relied entirely on Fleet's reading and interpretation of a passage of the fragmentary record. In this connection I would like to point out that, while re-editing the inscription for my *Select Inscriptions*, Vol. II (in the press), I have shown the unsoundness of both the above reading and interpretation. Fleet's tentative reading as well as the corrected and restored text of lines 8-12 of the Deo-Baranārk inscription is quoted below for easy reference.

Fleet's text:—

- L. 8.तक-राजपुत्र-राजामत्त(मात्र)-महा...क्षतिक-महादण्डनायक-
महाप्रतौहार-महासा-
- L. 9.प्र (?)मातसा...कुमारामात्र-राजस्थानौयोपरिक...धिक-चौरोद्ध-
रणिक-दाण्डिक-द (दा?) ण्ड-
- L. 10. [पाशिक?]. क शिखिलव्यायत-किशो(?)रवा(?)ट(?)क(?)
[ग्रा]म-ह...द त...यणिक ग...पतिकर्म (?)
- L. 11.रसक...तास्मत्पादप्रसादोपजीविनश्च प्रतिवासिनश्च ब्राह्मणो-
त्तरा(न्*) महत्तरक(कु?)क्षि(?)पुर-
- L. 12.विज्ञापित श्रीवरुणवासिभट्टारकप्रतिवद्धभोजकसूर्यमित्रेण उपरि-
लिखि-

Corrected and restored text:—

- L. 8. ...[समुपागतान् सर्वानिव*] [राजराजा]नक-राजपुत्र-राजामत्त (मात्र)-
महा[कर्त्ता*] क्षतिक-महादण्डनायक-महाप्रतौहार-महासा-
- L. 9. [मन्त-महादोःसाधसाधनिक*] प्रमाट-सर[भङ्ग*]-कुमारामात्रराजस्था-
नौयोपरिक × × × × × [दाशापरा*]धिक-चौरोद्धरणिक-
दाण्डिक-द[र्]ण्ड-
- L. 10. [पाशिक*] × × × × × [तदायुक्तक-विनियुक्त*]क-[हस्त्यम्बो]-
ह्रस्वव्यापृत[क*]-किशोरवडवागोमहि[ष्य][धिहृत*]-दूत[प्रेष*]णिक-
ग[मा*]गमिक-व्य-

- L. 11. [मित्वरमान][विषय*]पति[चाटभट*]-सेवका[दीनन्यांश्चाकीर्त्ति]ता[न*]-
 स्मत्पाद-प्रसादोपजीविनश्च प्रतिवासिनश्च ब्राह्मणोत्तरा[न्*] महत्तर-
 कुटुम्बपुरो-
- L. 12. [गान् मानयति बोधयति समादिशति च मतमस्तु भवतां*] विज्ञापितं
 श्रीवत्सवासीभट्टारकप्रतिबद्धभोजकश्रीसूर्यमित्रेण उपरिलिखि-

There is absolutely no doubt that Fleet's किशोरवाटकग्राम (read with no less than 4 queries), on which Dr. Majumdar relies, is merely the wrong and partial reading of the well-known epigraphic designation किशोरवडवागोमहिष्यधिकृत (sometimes गोमहिष्यजाविकाध्यक्ष, etc.) found in a large number of early medieval documents. Anybody who will care to compare the above section of the record with the corresponding part of the early Pāla records, e.g. the Monghyr and Nalanda grants of Devapāla,¹ will at once realize the hollowness of Fleet's reading. There is certainly no question of the name of any village in ll. 8-11 which contain the customary list of officials. There is thus no doubt that Vāruṇikā is the village granted by Jivitagupta; it originally formed a part of the realm of Maukhari Śarvavarman and Avantivarman and has to be identified with Deo-Baranark in the Shahābād District in Bihār. Dr. Majumdar's suggestion that the village granted was Kiśoravāṭaka, situated somewhere in the U.P., therefore seems to be unwarranted.

¹ *EI*, XVIII, pp. 304ff. ; XVII, pp. 318ff.

The Cult of Vana-Durgā, a tree-deity.

By N. M. CHAUDHURI.

The great Durgā, as she appears in the Epics, is a syncretic deity who has absorbed in her composite conception numbers of independent, minor deities. In the Śākta Puranas the process of absorption gives way to the process of affiliation and numerous local and folk deities of diverse origin come to be affiliated to her by the simple method of extension of her name to them. Thus we have Nava-Durgā, Pāda-Durgā, Gupta-Durgā, Kanaka-Durgā, etc. The name Vana-Durgā or sylvan Durgā does not appear in the Puranas. In different parts of Bengal there prevail a number of allied cults affiliated to the goddess Vana Durgā having in common two important features, namely, association with the sheora tree (*Trophis aspera*) and protection and welfare of children as their object. It is proposed in the present paper to examine these cults and the position of Vana-Durgā in relation to them.

Describing a cult known as Buḍir Pūjā prevailing in parts of North Bengal, Hunter writes, 'Tree worship is common among the Hindu Koch villages in Bogra, particularly in the ceremony known as the Buḍir Pūjā in which offerings of sugar and milk are made to the sheora tree'.¹ Hunter adds that Moslems also used to take part in this worship. A tree deity represented by or having her abode in the sheora tree is worshipped at Salap in the district of Pabna in North Bengal. The worship which is falling out of practice used to be performed some years back with some pomp. A little away from the village there was a miniature forest consisting of different species of trees, tangled bushes of cane plants, etc. and in the middle of this small forest there stood a cluster of sombre-looking sheora trees. The biggest among them was the favourite abode of or represented the deity. She was worshipped once in the year during the Durgā Pūjā by ladies belonging to the village. They carried the articles of worship in wicker baskets accompanied by a party of professional musicians. A Brahmin priest officiated and food cooked on the spot by Brahmin ladies was offered to her. Fish and meat were excluded and rice boiled in milk was the principal item of food offered. The worship was offered for the general welfare of the families represented, particularly the children of these families. One peculiar feature in this worship was that women, generally those young mothers whose children had died shortly after birth and expectant mothers, used to tie small pieces of new cloth dyed in turmeric to the branches of the tree after pūjā was offered by the priest. With what object this was done was not clearly understood but it was suggested by some of the older devotees that the auspicious offering of a new piece of cloth dyed in turmeric was made to ensure the long life of children. This tree deity was called Vana-Durgā.²

In the district of Mymensingh in East Bengal we find a cult called the cult of Rupasī or Rupeśwarī. We give below an account of the worship of Rupasī as it is performed at Astagram in Mymensingh. 'The goddess Rupasī is worshipped under a sheora tree outside the village or at some solitary place. If no tree is locally available a branch of the tree is brought from the place where it is to be found, planted in the earth and the worship is done at its foot. The worship is performed for the welfare of their children by women on such special occasions as the post-natal ceremony of a child

on the prescribed date, the sacred thread ceremony, marriage, etc. At first Śaṣṭhi is worshipped at home. Next, a party of women including the lady, the welfare of whose child it is desired to ensure, march to the place where worship is to be performed, carrying a winnowing fan with duck's eggs, lampblack, a piece of cloth dyed in yellow, oil, vermilion, etc. singing songs with instrumental music. The lady embraces the tree as a friend. Eggs are broken and offered at the foot of the tree. A portion of the articles offered to the deity is brought back and placed at the foot of the main post of the main room'.³

Rupasī or Rupeśwarī is worshipped also in the neighbouring district of Sylhet in Assam. 'The females generally take a vow to Rupeśwarī *alias* Rupasī if the child lives after a safe delivery. Rupeśwarī is also called Vana-Durgā as her worship is performed in or nearby a wood.' The same writer adds, 'There are trees in almost all the Hindu villages which are said to be the abodes of the goddess Rupasī or Rupeśwarī. Nobody would cut these trees for fear of a dreadful calamity'. It is reported that Rupasī is also called Vana-Durgā.⁴

In parts of Dacca district there prevails a worship of particular trees held to be of special sanctity, and known as *Caṇḍī gāca* and in some places as *Kālī gāca*. It is forbidden to cut these trees or their branches. Generally the sacred tree is a sheora tree. It is reported from Sologhar, Dacca, that the sacred tree which stands in a field outside the village is worshipped by women, particularly by married women who are mothers, who proceed there in a party for offering worship. Eggs are broken and offered to the tree and live pigeons are also offered and let off afterwards.⁵ The resemblance in several respects to the worship of Rupasī would indicate that it is perhaps the same tree deity.

In some parts of the district of Birbhum there prevails the cult of *Guṇḍī Thākuraṇī* or the goddess of the tree-trunk. This goddess is definitely known to be associated with the sheora tree in the Trisasthigarh area between the Ajoy to the north and the Damodar to the south. The goddess is generally worshipped by the Hinduized tribes without the help of a Brahmin priest and cock, pigeon and swine are sacrificed. Eggs of duck, hen and pigeon, smeared with vermilion and placed on plantain leaves, are offered her. Sometimes goats and pigeons which are offered are not killed but kept tied near the place of worship and let off after being symbolically offered. A special worship is offered on the new moon day in Bhadra when fried rice, powdered rice mixed with water and made into balls, plantains and eggs of pigeon and hen are offered. The goddess is worshipped on all auspicious occasions in the life of a child from the post-natal ceremony to marriage. Picnics form a part of the worship of *Guṇḍī Thākuraṇī*, only females taking part in them. These picnics are held on the first Saturday and the last day of every month, all womenfolk of the village including widows and unmarried girls taking part in them. *Guṇḍī Thākuraṇī* is also called Vana-Durgā in these parts as Rupasī is so called in Sylhet.

In the same locality there also prevails the worship of Vana-Durgā in image, but the association of the goddess with the sheora tree is maintained at the same time. Near a big tank known as Ichai Ghose's *dighi* in this part of the country there is a dilapidated temple and by its side a mud house which enshrines the image of a goddess which is called Vana-Durgā. This image is like the ten-armed image of Durgā. She is worshipped by the Hinduized tribal inhabitants of this jungle country without the help of a priest and cocks are sacrificed to her. On the second day of Durgā Pūjā the service of a Brahmin priest is requisitioned and worship is offered

in the orthodox style. She is meditated on as a goddess with protruding teeth, terrible-looking, with three eyes, armed with discus, etc. and invoked as Durgā residing in the *sakhot*, that is, the sheora tree, and again, as Durgā residing in the Vindhyas with Pañcānana by her side.⁶ But the worship of this image is not compulsory, nor is she offered daily worship. Near the mud shrine and the *dighi* there are a number of sheora trees. The roots of these trees are smeared with vermilion and earthen pots similarly smeared (*ghatas*) are placed under the trees. This place is called *Ādya mātālā*, that is, the original seat of worship. Lamps are offered at this place every evening. Worship is offered to the trees with the mantras, 'to the goddess residing in the sakhot', 'to the goddess decked with wild flowers', 'save my son',⁷ etc. Women worshipping the deity invoke her as 'Durgā residing in the sakhot' and recite the following mantra:

Putā rakṣā putā karago Thākuruṇa

Māthera dhāna kseter hāla

Karuṇa śatek guṇa

Nama, nama, gāchera guṇḍi Thākuruṇa.

(Save sons and give sons, o goddess; make the paddy in the field and the plough for tilling hundredfold; obeisance to thee o goddess of the tree-trunk.)⁸

It would appear from the above account that the occurrence of the image in the worship of Guṇḍi Thākuraṇī *alias* Vana-Durgā is an accretion. In fact, it is stated, 'The original goddess and the original seat of her worship are where the sheora trees stand. It is possible that one of the images which lay scattered after the destruction of the garh of Śyāmarūpa Devī worshipped by Ichai Ghose was picked up later and installed in the mud house and she came to receive worship as Vana-Durgā.'⁹

It is stated in a report received by us that in Comilla in East Bengal Vana-Durgā is worshipped under a *kāmini* tree while in some parts of Birbhum district in West Bengal she is worshipped under *sal* and *palāśa* trees, in Bankura under *palāśa* tree and in Manbhum (now included in Bihār) she is worshipped under the *āśvattha* tree. We have not been able to obtain details about the worship of Vana-Durgā under these trees. According to one account worship is offered to Vana-Durgā under a *kula* tree.

It appears that the deity called Vana-Durgā in this report is worshipped for curing itches and boils. She is thus identical with Basanvarī, Vitakumārī and Ghentu whose cults have been noticed by us elsewhere¹⁰ and different from Vana-Durgā associated with the sheora.

Analyzing the elements of the cults of the Buḍī, Rupaśī or Rupeśwarī, Guṇḍi Thākuraṇī and Vana-Durgā—we may dismiss the report of the worship of Vana-Durgā as a cure deity—we get the following facts for consideration:

- (1) The tree-goddess represented by or having her abode in the sheora tree is worshipped outside the village, preferably in a wood or at a solitary place.
- (2) The object of her worship in all the cases in which fuller reports have been received, is protection and welfare of children.
- (3) The form of worship and sacrifices are sometimes unorthodox in character.
- (4) Women are her special devotees.
- (5) In one instance the custom prevails of tying rags to the sheora tree worshipped as Vana-Durgā.

Barring the report regarding prevalence of the cult of Vana-Durgā in association with the *sal*, *palāśa* and *āśvattha* trees in some of the West

Bengal districts and with the *kāminī* in Comilla in East Bengal we find that it is the sheora tree which represents or enshrines the Budī, Rupasī, Guṇḍī Thākuraṇī and Vana-Durgā. The sheora is described as an ill-looking, scraggy, crooked, small tree. The Sanskrit name of the tree is *śākhot* or *piśāca druma*, i.e. ghost tree. It is well known in the folklore of Bengal as the favourite haunt of female ghosts or *pretinīs*. How this particular tree came to be regarded as the abode of female ghosts cannot be said. Probably its ugly look and growth in low, marshy lands have something to do with this particular treatment of it. The *bel* is sacred to Siva, the *nīma* to Vishnu and the sun and the *āśvattha* to the ancestors. These three trees are also regarded as abodes of ghosts. The *nīma* is, again, a powerful prophylactic against evil spirits and twigs of the tree are hung at the door of the lying-in-room when a child is born in many parts of the country. It has also medicinal virtues. The sheora has no sacred association, old and new; its only association is with the spirits of the dead unredeemed, an association derived probably from folklore. It is possible that this demoniacal association of the sheora tree at the present time is a survival of earlier demonolatry, probably of tribal origin. This view is suggested by the fact that the sheora is unknown to sacred literature, old and new, and confirmed by the circumstance that though particular sheora trees receive worship the species itself is not held to be sacred as the *bel*, *nīma* and *āśvattha* are held, while the demoniacal association seems to be common to the species. It is confirmed further by the circumstance that the sheora tree representing or enshrining the above-mentioned female deities always stands in a jungle or at a solitary place outside the village. We have an analogy of this custom of offering worship to a deity obviously of malign influence, away from habitations, in the old, sacred literature, e.g. in the case of Rudra.^{10a} The underlying idea seems to be to prevent the malign influence of the deity from spreading to the village.

Now, the question arises as to why this tree of demoniacal association should come to be worshipped by women for the welfare of their children. It has been stated that in the orthodox worship offered to Vana-Durgā on the second day of Durgā Pūjā at Trisasthigarh the goddess is meditated on as having protruding teeth, a terrible face, etc. This conception of Vana-Durgā is almost identical with the conception of Nistārīnī Vana-Durgā whose worship is prescribed in the priest's manual as follows: A bull made out of plantains is to be placed near an altar made of earth and a pitcher of water with a twig of the mango tree at the top with vermilion marks on it is to be placed on the altar on which a *mandala* is to be drawn. After the other preliminaries of worship are gone through the goddess Nistārīnī Vana-Durgā is to be meditated on thus: 'Goddess, mother of the *dānavas*, with rolling eyes, fearful teeth, matted long hair, adorned with a wreath of snakes and a waistband of snakes, armed with a bow and arrows, awe-inspiring'.¹¹ She is to be worshipped along with twelve *dānavas* such as Kṛṣṇakumāra, Rupakumāra, etc. and Ranayakṣiṇī.¹² It is not stated in the manual why she is to be worshipped, but her association with twelve *dānavas*, the fact that she is regarded as the mother of demons and her terrible form prove beyond doubt that she is none other than the baby-killing demoness (*śiśuhārīnī*) *Jātāpahārīnī*. *Jātāpahārīnī* is worshipped with twelve *dānavas* for the protection of new-born infants and she is also worshipped when Śaṣṭhī the birth-goddess is worshipped after childbirth.¹³ Vana-Durgā worshipped in image in Trisasthigarh area by women for protection or welfare of their children and identical in conception with Nistārīnī Vana-Durgā is a demoness allied, as her terrible form and her conception as the mother of *dānavas* would prove, to the type of baby-killing

demoness like Jātāpahārīnī and closely related to early representatives of the same type such as Hārītī, Jarā, Yakṣiṇī Kuṇḍalā, etc. who were changed into protectresses of children. The transformation of these demonesses from baby-killers into protectresses of children will be discussed in a future paper. Rākṣasī Jarā whose account appears in the Mahābhārata was originally a demoness feeding her 500 children on the children of the people of Magadha and she was turned later into a beneficent gṛhadevī. Besides these demonesses who were transformed from destroyers into protectresses of children the Mahābhārata mentions quite a number of demons and demonesses whose business was to destroy embryos and children. One of them was the well-known Śita Pūtānā. The mothers of the Nāgas and Gandharvas were also destructive of embryos and infants and so were also the Mātṛkās such as Vinatā, Diti, Aditi, Kadru, etc.¹⁴ The kumāras and kumārīs who sprang from Skanda belonged to the same class of evil spirits.¹⁵ So we find that the custom of worshipping a demoness for protection of children goes back to and is based on epic tradition. Rites and formulas are prescribed in the sūtras for driving away demons and goblins from the child. (Cp. *Pāraskara Gṛhya S.*, 1.16.23; *Hiraṇyakeśin Gr. S.*, 11.3.7, etc.) It has been observed that the treatment of the ten-armed image of Durgā as a demoness connects her with the Jātāpahārīnī type of baby-killing demoness. Her conception as residing in the sakhot tree connects her with Guṇḍī Thākuraṇī *alias* Vana-Durgā, who is wholly a tree deity, the only demoniacal element in her being the association with the sheora tree known as piśāca vṛkṣa and as the favourite haunt of female ghosts.

The conception of Śaṣṭhī, the beneficent goddess of childbirth, differs from the conception of the baby-killing demoness of the type of Nistārīnī Vana-Durgā as well as the type of tree deity of the class of Guṇḍī Thākuraṇī, Rupasī, etc. who are represented by a tree associated with unredeemed spirits of the dead and concerned with the welfare and protection of children. The latter group of tree deities are distinct in origin from Śaṣṭhī being only protectress and not giver of children and distinct in origin from the former type of destructive demonesses. Before discussing the origin of this type of benevolent tree deities it may be observed that the cults of this type of benevolent tree deities are fairly widely spread. For instance, we may refer to the cult of Aranya Śaṣṭhī and the cult of Ran Satvai. These cults are noticed in our paper '*Śaṣṭhī the goddess of childbirth*', and here we would draw attention to the important features of these cults.

The cult of Aranya Śaṣṭhī prevails in Bengal, parts of Rajputana, the United Provinces, etc. In Bengal the cult of Aranya Śaṣṭhī is classed as a *vratā* observed in the month of Jaiṣṭhya by women on the sixth day of the bright moon. The devotees repair to a wood near the village with the articles of worship and worship the deity there. The object of worship is to ensure the long life and prosperity of children.¹⁶ It is to be noted that there is no mention of the sheora tree though the worship is performed, as in the case of Rupasī in Sylhet and Vana-Durgā in North Bengal, outside the village in a wood or forest. The goddess is worshipped under the same name and for the same purpose in Rajputana by women who 'walk in the wood to gather and eat certain herbs'.¹⁷ In the cult of Ran Satvai prevailing in the Maratha country the deity has to be worshipped in a jungle by women after childbirth. These deities are regarded as folk forms of the goddess Śaṣṭhī and originally they were probably vegetation or tree spirits. The use of the name of Śaṣṭhī is a clear indication of the attempt to affiliate them to the Puranika birth goddess. It should be noted

that the benevolent tree deities represented by *Rupasī*, *Guṇḍī Thākuraṇī*, etc. appear to be distinct from the deities regarded as folk forms of *Ṣaṣṭhī* who are not associated with any particular tree and also distinct from the demoniacal *Vana-Durgā*; but with the former they have it in common that they are worshipped outside the village in a jungle or solitary place and with the latter they have in common the association with the sheora tree which is of demoniacal association. We shall consider the implications of it presently.

The circumstance that women are the special devotees of these tree deities calls for no comment, because the object, namely, protection of children, is of particular concern to them. The next point to be noted is that worship is offered in both orthodox and folk forms. In *Trisasthigarh* area the orthodox worship is offered to the image of *Durgā* and not to *Guṇḍī Thākuraṇī* represented by the sheora tree. In the North Bengal villages where orthodox worship is offered to *Vana-Durgā* represented by the sheora tree the explanation probably is that members of the higher castes predominate among the devotees.

The worship of *Vana-Durgā* in an image which, it is reported, is not compulsory and is not known to prevail at any other place outside the area noted above, is clearly illustrative of the process of promotion of the tree deity represented by the sheora. *Guṇḍī Thākuraṇī* or the Venerable Lady of the Tree-trunk who is invoked as *Durgā* residing in the *sakhot* tree is lifted on to a higher plane when she is affiliated to *Durgā* living in the wood. The uplifting process is carried further when she is conceived of as residing in the *Vindhyas* and with *Pañcānana* at her side. Thus the Venerable Lady of the Trunk is first *Durgā* living in the *sakhot*, next *Durga* living in the woods and finally *Durgā* living in the *Vindhyas*, that is, *Durgā* who is recognized as the Great Mother and consort of *Śiva*. It may be noted that in the cult of the *Buḍī* or Old Lady prevailing in *Rungpur* in North Bengal and discussed by us elsewhere¹⁸ the Old Lady who is a tribal clan deity of the *Rajvansis*, *Kaivarttas*, etc. is affiliated in the same way to the *Devī* as the nurse of the universe (*jī-gakūṇ dhātṛī*), consort of *Rudra* (*Rudrakāntā*), etc.

The last feature to which attention may be drawn is the practice of tying pieces of new cloth dyed in turmeric to the branches of the sheora tree observed in one place only. Rag-offering with the idea of transference of evil is an old and world-wide custom which we have discussed elsewhere.¹⁹ In the present instance the custom is probably based on desire for the long life of children.

The above analysis of the allied cults of the *Buḍī*, *Rupasī*, etc. or the cult of *Vana-Durgā* shows that it is a mixed cult with elements of an old demonolatrous practice and a tree cult. This kind of mixed cult is of old origin. The association of spirits with trees goes back to an early age. Among *Indus Valley* finds there are specimens which prove belief in the existence of tree spirits and contain anthropomorphic representations of these tree spirits.²⁰ In the *Atharva Veda* the *āsvattha* and *nyāgrodha* are stated to be inhabited by the *gandharvas* and *apsaras*.²¹ The association of demons or evil spirits with trees goes back, as we have seen, to the *Mahābhārata*. The *vrkṣa mātṛkās* or tree mothers known as *Vṛddhikās* were evil spirits residing in trees and devourers of human flesh. They were propitiated by people.²² The trees were one of the residing places of *Skanda's mātṛkās* who were injurious to children.²³ We have seen that in the cult of *Vana-Durgā*, as it obtains in *Trisasthigarh*, *Vana-Durgā* is conceived of as a mother of *dānavas*, terrible in form and as *Durgā* residing in the *sakhot* tree. The tradition of evil spirits residing in trees is thus

of old origin. It is not indicated in the references in the *Mahābhārata* that any particular species of tree was selected as their favourite haunt by the evil spirits. In the cult of Vana-Durgā in the above-mentioned area and in the other allied cults the sheora tree associated popularly with mischievous, unredeemed spirits of the dead is selected as the abode of the deities or spirits worshipped. This association of the sheora tree may be derived from tribal demonolatry in Eastern India as its Sanskrit name *piśāca vṛkṣa* and its worship by the Hinduized tribes in some of the above-mentioned areas would suggest. At any rate, the choice of this particular tree indicates the accretion of a new element to the old tradition.

The next point to be noticed is the association of children with the cult based on the old tradition of malignant spirits residing in trees. In the *Mahābhārata* the trees were one of the abodes of the *Mātrkāś* injurious to embryos and infants. The *Vṛddhikāś* were demoniacal tree spirits fond of human flesh without any partiality for infants. In the cults under notice the welfare of children is the common object. This common connection with children may be regarded as another new element added to the old tradition.

We have seen that in the cults under notice the demoniacal element is absent in all cases except in the worship of Vana-Durgā in image in Trisasthigarh. If it is held that the cults under notice are derived from or based on the old tradition how should we account for the suppression or absence of demoniacal features in these cults? We have referred to the Buddhist and epic tradition of baby-killing demonesses transformed into protectresses of children. But the Buḍī, Rupasī, Guṇḍī Thākuraṇī and Vana-Durgā represented by or enshrined in the sheora tree are all benevolent deities without any other demoniacal feature in their cults except the association with the ghostly sheora tree. They are worshipped for welfare and protection of children. The protection sought is protection from the malign influence of the evil spirit residing in the tree to which its malignity seems to be transferred. The absence or suppression of demoniacal elements in the cults under notice is probably accounted for by the absorption of the in-dwelling evil spirit by the tree itself. There is another consideration which might have been responsible for it and we are coming to it.

We find that protection and welfare of children are the main concern of these cults. We hold that this characteristic of the cults under notice should be traced not to the old epic tradition of demonesses residing in trees and harmful to children who have to be propitiated for not injuring children but to the aspect of old tree worship based on the idea of connection between tree spirits and fertility among men.

The association of the fig tree with fertility from prehistoric times has been discussed in detail elsewhere.²⁴ In the *Atharva Veda* the *āsvattha* is connected with fertility.²⁵ The *Taittiriya Saṁhitā* prescribes animal sacrifice to plants in order to remove obstruction to the attainment of offspring.²⁶ The worship of the *udumbara* is prescribed in the *Sūtras* by newly married couples for the sake of offspring.²⁷ The bridal car was adorned with *kimśuka* flowers probably for the same purpose.²⁸ According to the *Aitareya Brāhmaṇa* the *bilva* is the symbol of fertility.²⁹ The *Mahābhārata* says that persons desirous of offspring should make obeisance to the *karanja* tree when they see it. The *kadamba* tree is worshipped as the abode of Skanda's nurse Lohitayoni.³⁰ According to the *Kālikā Purāṇa* the mother of Visvāmitra and the mother of Jamadagni were asked by Bhṛgu to embrace the *āsvattha* and *udumbara* after their menstrual period for obtaining male child.³¹ According to the same authority the

tamarind and *aparājītā* are sacred to the Devī and associated with fertility and long life.

Belief in the fertility-giving powers of trees is illustrated by the prominent place given to different trees in the marriage ceremony among Hindus and Hinduized tribes in different parts of India. We have shown elsewhere how the bamboo post used in the marriage ceremony in Bengal, Bihar and Assam is distantly connected with fertility cults.³² The mango, *mahuā*, plantain tree, etc. used in the marriage ceremony among Hindus, Hinduized tribes and tribal peoples appear to have the same significance, e.g. attainment of offspring. The mango and *mahuā* occupy an important place in the marriage ceremony among certain tribes who first marry boys and girls to the tree before they are married to each other. The *sidh* is also treated in the same way.³³ The rites gone through in such marriage suggest removal of evil influence and fertility rites for the sake of offspring.³⁴ Offerings are made to the *aonla* tree in the Punjab for offspring.³⁵ The banyan is worshipped by the bride and bridegroom in Kathiawad with the same object.³⁶ The pipal is worshipped by women in Rajputana for the same purpose.³⁷ Many instances are known of trees being worshipped by women to cure barrenness and mention may be made of the famous *keḷi kadamba* tree near the temple of Barga Bhima in Midnapore in Bengal. Among the Garatias in Gujerat the tamarind is worshipped at the time of marriage.³⁸ Newly married girls offer flowers and sandal paste to the *asopallav* (*Polyalthia longifolia*) and lay a cotton thread on its trunk on Monday in the first Śrāvaṇa after marriage. The *bel* tree is similarly worshipped in the month of Bhādra.³⁹ Women, particularly barren women, worship the *daro* on the bright eighth of Bhādra with water, flowers and red powder and rice is offered. The *kadamba* is worshipped by women to gain their desires in Kārtika. Among the Mathur Kāyasthas on the marriage day the bride and bridegroom strike each other with an *oleander* twig. The plantain tree is worshipped in the month of Śrāvaṇa by barren women. The *khakaro* (*Butea frondosa*) is worshipped by the Rajputs after marriage.⁴⁰ In Tanjore married women walk round *arasu* (pipal) and *margosa* for children.⁴¹ Among certain Hinduized tribes in Tanjore and Trichinopoly girls are married to a plantain tree before their actual marriage takes place.⁴² In Trichinopoly among some non-Brahmin castes on the first day of marriage a branch of some *milky tree* is planted near the marriage booth as a favourable pole (*muhurtakkul*).⁴³ Trees with milk-like sap are associated with fertility ideas. In Madura among the Parivarams the bridal procession is headed by a man carrying a bamboo pole to which is tied in a *saffron* coloured cloth nine kinds of grains and bamboo poles are planted at the marriage booth.⁴⁴ In Malabar on the 6th or 10th day of marriage the couple go to a jack tree under which some rice, curds and ghee are placed on some *kuśa* grass and offering is made of flowers and *sandalwood* paste.⁴⁵ *Areca* palm posts and jasmine branch associated with fertility ideas feature in the *Talikettu kalyanam* ceremony in Malabar.⁴⁶ Among Paraiyans in South Arcot a pole of the *Odina woder* tree is planted at the place appointed for the marriage ceremony.⁴⁷ Among Moslems in the same part of the country a pole called *muhurt kamba* round which is twisted a piece of silk and to the top of which is tied a bunch of mango leaves is planted at the marriage booth.⁴⁸ In Bellary the *tangeda* bush is worshipped after marriage among the Holeyas.⁴⁹ In the same district among Sūdras a branch of the Indian coral tree (*Erythrina indica*) is planted at the marriage booth. It is decorated with saffron, chunam and green leaves and is called *halukamba* or milk pole.⁵⁰ In Nellore among the Nayadus a pole with a few branches of the *margosa* is erected at the marriage

booth.⁵¹ It has been observed that the fig is associated with fertility in Assam, South India, Africa, Italy and other countries.⁵² The association of the plantain tree with fertility is also early and widespread.⁵³ The association of tree or vegetation spirit with fertility is well known in many religions outside India.⁵⁴

There is no known instance of the sheora tree being worshipped for the attainment of offspring or its association with marriage or fertility rite; still, it is consistently worshipped in different parts of Bengal for the welfare of their children by mothers. From what has been stated above we are led to the inference that the worship of the sheora by women combines two conceptions, namely, the conception of the fertility-giving powers of trees and the conception of malignant spirits harmful to children residing in the sheora tree who have to be propitiated. The former conception seems to be non-applicable to the sheora tree while the latter conception is particularly applicable to it. We have, however, epic tradition of trees known as abodes of malignant female spirits being worshipped by men desirous of offspring. In the widespread epic cult of *caitya vrkṣa* the dreaded tree round which devotees circumambulated and under which lamps were offered⁵⁵ was generally the *asvattha* tree which was, as we have seen, also connected with fertility. In the cults under notice we have an instance of the fertility conception of the old tree worship being superimposed on an old tradition of demonolatry probably of tribal origin. The former conception appears to have transformed the latter conception with the result that a tree recognized as the abode of malign spirits has been transformed into the abode of the protecting spirit of children called Vana-Durgā, Buḍi, Rupasī, Guṇḍi Thākuraṇi, etc. in different parts in the same fashion as baby-killing demonesses were transformed into protectresses of children. The worship of Vana-Durgā in connection with *kāminī*, *sāl*, *palāśa*, etc. probably illustrates a phase of the same tree worship dissociated from affinities with tribal demonolatry. The process which has operated in bringing about the transformation has gone further and resulted in affiliating the tree deities to the great Devī under the name of Vana-Durgā.

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- ³ Reported by Mr. D. Bhattacharya, Geological Survey of India, Astagram, Mymensingh.
- ⁴ P. Bhattacharya, *Folk Custom in Sylhet, Man in India*, vol. X, Nos. 2 and 3, p. 135.
- ⁵ Reported by Miss P. Ghose, Sologhar, Dacca.
- ⁶ *Ugradamstrām karālasyām . . dīpvastrāmbhāyam . . sakhotvāsiniṁ durgām sarvatra śubhakāriṁ . . cakrasaṅkharavarābhayāni . . dhyāyēdvindhavyāsiniṁ śaīmukhī pārsvasthū pañcānamam, etc.*
- ⁷ *Nama Vana-Durgā valīpeta, Vanamālābibhūṣitā, sheoranivāsiniḍevī puta rakṣā kurusva me, etc.*
- ⁸ These mantras as well as the account given above have been collected from an article entitled 'Banglar Math o Mandir' published in *Dainik Basumatī*, Calcutta, of 14th Śravana, 1346 B.S.
- ⁹ Ichai Ghose was a famous hero of the mediaeval Bengali poetry. He was the king of Dhekur on the Ajoy and a devout worshipper of Śakti. He was defeated and killed by Lausena. Hunter gives an account of Ichai Ghose in his *Annals of Rural Bengal*.
- ¹⁰ The account is summarized from an article entitled 'Van-Durgā pūjār gāthā' published in the *Ananda Bazar Patrika* of 9-8-42.
- For cure deities, see N. M. Chaudhuri, *Some Cure Deities, Indian Culture*, vol. VII, No. 4, 1941.
- ^{10a} See *Hiraṇyakeśin Gṛhya Sūtra*, 1.5.16.

- 11 *Om devīm dānavamātaram . . dāmastrābhīmamukhīm jatālibīlāsanmaulīm kapālasrajam . . Bānde lokabhayaṃkarīm . . nāgendrahārojjvalam sarpabādhvanītamabīpulām . . vānāṃ dhanuvibhratīm*, etc. *Kriyākāṇḍavāridhī*, vol. I, p. 392.
- 12 The twelve demons are Kṛṣṇakumāra, Puṣpakumāra, Rūpakumāra, Haripagala, Rūpamālina, Gābhūṣaḍalana, Mocārasinha, Nisacaura, Sucimukha, Mahāmāllika, Balibhadra. Raṇayakṣiṇī is a fearful demoness. *Kriyākāṇḍavāridhī* (Basumati publication), vol. I, pp. 392, 393, 394.
- 13 *Kriyākāṇḍavāridhī*, vol. I, p. 300.
- 14 *Mahābhārata* (Bangavasi Ed.), Vana Parva, ch. 227.
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- 38 *Bombay Presidency Gaz.*, vol. IX, part i, p. 382.
- 39 *Ibid.*, pp. 382, 383.
- 40 *Ibid.*, pp. 384, 385.
- 41 F. R. Hemingway, *Tanjore Dist. Gaz.*, p. 69.
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- 53 *Ibid.*, p. 414.
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The Elative case in Bhadarwāhī.

By SIDDHESHWAR VARMA.

The occurrence of the Elative case in Bhadarwāhī was communicated by me through one of the private circulars (No. 2, dated the 14th April, 1928) of the Linguistic Society of India. I collected further data on the subject during my later Himalayan linguistic expedition.

The Elative case occurs both in Bhadarwāhī and Bhalesī. These dialects vary as regards its terminations in the following manner :—

(1) *Badarwāhī.*

(a) Used both in singular and plural :—

Terminations :—māzērū, mārū

e.g. 'ghare-māzērū or gharemārū 'out of the house'.
gharnmāzērū or gharnmārū 'out of the houses'.

(b) Terminations singular—ērū ; plural—āñā

'gharērū 'out of the house'.

'gharāñā 'out of the houses'.

(2) *Bhalesī.*

Terminations 'maza or 'antra used both in singular and plural, e.g.

'ghare-'maza } 'out of the house'.

'ghare-'antra }
gharən-'maza } 'out of the houses'.
gharən-'antra }

'juṭṭie 'maza } 'out of the shoe'.

'juṭṭie 'antra }
juṭṭien maza } 'out of the shoes'.
juṭṭien antra }

But in order to realize the distinctive significance of the Elative case, the various uses of the Bhadarwāhī Ablative ought to be noticed. For in these dialects the Ablative and the Elative often overlap.

THE ABLATIVE.

Terminations.

(1) *Bhadarwāhī.*

—kērū both in singular and plural.

e.g. ghare-kērū 'from the house'.
gharn-kērū 'from the houses'.

(2) *Bhal.*

(a) —a (singular).

—an (plural).

'ghara 'from the house'.

'gharan 'from the houses'.

(b) —bīṛiā both in singular and plural.

'ghare-'bīṛiā 'from the house'.

gharn-'bīṛiā 'from the houses'.

(c) —kēri, used for indicating comparison.

'use gho'ṛa-kēri 'ullo 'better than that horse'.

Note the following uses of the Ablative in Bhadarwāhī:—

(1) *Distance.*

m dui gharṇkērā batt dyr ε: 'this road is far from both these villages'. The Elative plural forms 'ghrāṇā, gharn-māḷērā, etc. will not be allowed here. But in singular the Elative form 'gharērā 'out of the house' can also be the Ablative form, signifying 'from the house'; the other Ablative form being ghare-kērā. -ērā of the Ablative singular may possibly be a reduction of—kērā, while the Elative -ērā may be a reduction of māḷērā.

(2) *Relief.*

mī huni tape-kērā a'ra'm ε: 'I now feel relief from fever'. The Elative 'taperā, etc. will not be used.

(3) *Release.*

mī is-belai-kērā beḷa th: 'release me from this misfortune'. Here, however, the Elative bēlērā may also be used, but bēlai-kērā, according to my informant, would be preferable.

(4) *Avoidance.*

m gharn-kērā 'baḷa: 'avoid these houses'. The Elative 'gharāṇa, according to my informant 'will be clumsy' here.

(5) *Separation.*

āū 'hunṇā ṭes-kērā φro ēī: 'I have just come from him'. 'ṭesērā, which is also the Elative form, will be erroneous here.

(6) *Supplication.*

pər'me'ṣre-kērā 'maḡga: 'Beg of God'. The Elative pər'me'ṣrērā will not be used here.

(7) *Fear.*

āū ghore-kērā ḍartā: 'I am afraid of the horse'. The Elative 'ghorērā will be wrong here.

(8) *Deprivation.*

'əore rame-kērā sâb kich thr'əho'ru : 'the thief seized everything from Rāma'. 'ra'mērā 'will not sound well', according to the informant.

(9) *Comparison.*

tê mī epni 'janikērā bi tlaro ε : 'he is dearer to me than life'. Here the Elative 'janī-ērā will be wrong, but the plural 'pra'nanā, being an Elative form, may be used—why so, is difficult to explain.

(10) 'meri kui 'tufse 'dhlæ-kêrā'nukri ε : 'my daughter is younger than your brother.' Hence the Elative dhlæ'rā will be wrong.

But when selective comparison with many persons is meant, the Elative may be used, e.g.

'sita epni sēbη bēnēn-mârā chel-herni : 'Sita is the most beautiful of her sisters.'

We, see then, that in most of the above senses, the Ablative, and not the Elative, is used.

The proper use of the Elative may now be considered :—

(1) 'from inside out'. is 'gharērā 'nissa : 'get out of this house'.

Here the Ablative 'ghare-kērā will not be used. But if the sentence is intended to imply, 'Get out by passing along this house', then the Ablative 'ghare-kērā may be used.

Similarly the Elative plural will be used in the sense of 'inside out', as in 'mā gharāñā : 'out of these houses.'

is-'bañērā 'buri muʃk εce : 'an offensive smell is coming from this forest'. The Ablative bañe-kērā will not be used. iṣh 'bañērā 'kreṅko 'the bear howled from the forest'. The Ablative with -kērā will not be used here.

təsere 'gharērā 'əorei sēb kich nū : 'the thieves took away everything from his house'. The informant remarked emphatically that the Ablative 'ghare-kērā 'will never be used here'.

(2) *Birth.*

tə'se'ru zarm 'bañe kule-mârā ε : 'he is born of a high family'.

is 'ghōṛērā dui br'chere zarme : 'this mare has delivered two foals'.

Here the Ablative 'ghōṛe-kêrā will not be used.

(3) *Partitive sense.* This use is quite frequent and occurs in various situations :—

in əw-rən-mârā pēlo əw'r jhaṭ tṣejjṣṣi jə'u : 'the first of these thieves was arrested immediately'. The Ablative -kērā will not be used here.

m matṭhen-mârā 'keñci i'nam mēllu ? 'which of these boys got the prize ?'

melai dūdderā nīṣce : 'Cream comes from milk'.

'sannu pe'ha'rānā 'nīste : 'gold comes from mountains'.

m'matṭhu 'epni je'ma'ti-mâẓerā abbēl 'nīssu : 'this boy stood first in his class'.

'bu'tānā meo 'biḥerte : 'fruits fall from trees'.

'ambrere 'ta'rānā lo 'lagorie 'ējje : 'Light is beginning to come from the stars'.

m-gharmmârā tusēn kō'nzēru ghar persind ε : 'which of these houses do you like best ?'.

(4) *Transference.*

tāseri 'bādli keṣ'mi-rerā bhiḍlāejo bhu'o'ri ε : 'He has been transferred from Kashmir to Bhadarwah'. The Ablative kaṣ'mi-re-kērā, according to the informant, 'would be quite wrong' here.

te kaḷ'kattērā 'dillījo 'naḷḷjo : 'He fled from Calcutta to Delhi'. The Ablative—kērā will not be used here.

te keṣ'mi-rerā 'celipeu : 'he started from Kashmir'. The Ablative -kērā will not be used here. There seems to be a mysterious psychology in this aversion to the Ablative. For, according to the speaker, the Ablative -kērā may be used if it is intended to imply that the man started from a *house*, e.g. te 'ghare-kērā 'celipeu : 'he started from the house'. Perhaps the Elative keṣ'mi-rerā is preferred because the man's point of departure is still in Kashmir. Though he has started from Kashmir, the initial stage of his journey is still within Kashmir. Similarly :—
mī 'tusēnjo keṣ'mi-rerā 'erṭṭhi l'kho'ri thi : 'I had written a letter to you from Kashmir'. The Ablative -kērā 'will never be used here', according to the Informant.

is 'mulkherā ann ber gāte : 'Grain is exported from this country'. The Ablative *mulkhe—kērā will not be used here.

(5) *Removal.*

is 'grarērā phēsad 'mīto : 'conflict was removed from this home'. The Ablative (—kērā) will not be permitted here.

te 'za'tērā khin'dao : 'he was expelled from (his) caste'. The Ablative is similarly not used here.

CONCLUSION.

The above data show the actual occurrence of the Elative as a distinct case in Bhadarwāhī. The sense of this case is no doubt commonly present in several languages. Thus Hindī mē se, Panjābī 'viccō, as in gharmēse, ghar'viccō 'out of the house' often occur as postpositions to indicate this sense. But Bhadarwāhī Elative is a distinct grammatical case. For while

Hindī and Panjābī idioms optionally allow the Ablative postposition *se*, *thō* or *sō* respectively to indicate the elative sense, Bhadarwāhī idiom strictly requires the Elative terminations when expulsion, removal or transference is meant. Moreover, some of the Bhadarwāhī Elative terminations are, as they stand at present, not postpositions. Thus the Elative pl. in *-āṇā* seems to be a preservation of PIA *-ānām*, while *-ērū* seems to be a reduction of *māzērū*.

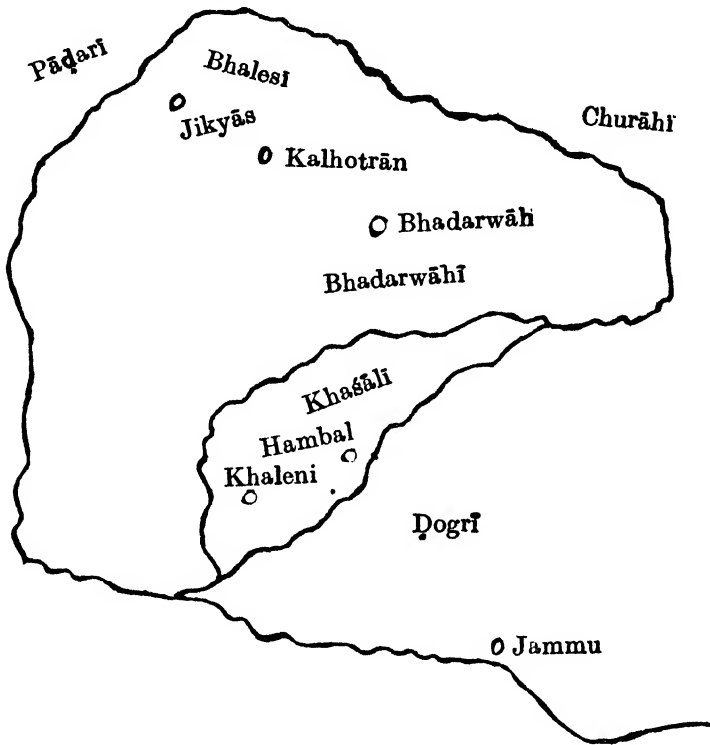
The Elative case, then, seems to be an innovation in the evolution of Bhadarwāhī, both linguistically and psychologically.

Indian dialects in phonetic transcription.

By SIDDHESHWAR VARMA.

II. BHADARWĀHĪ, BHĀLEŚĪ AND KHAŚĀLĪ.

Bhadarwāhī, Bhāleśī and Khaśāli, spoken in the territories of Jammu and Kashmir, are neighbouring dialects. The following rough map will illustrate their relative position :—



STORY OF THE NORTH WIND AND THE SUN.

(1) *Bhādarwāhī*.

ut'treṇero (or 'uttrero) bat te dī'ha'ro
northern wind and sun

bat te dī'ha'ro is 'gallipū 'laṇe 'lagore thie ki asen duien maz
wind and sun this thing-on disputing were that of-us two among
kaup zore-balo āe 'ētremaṣ u'ṇa'lu koṭ 'leitā akk bəṭōṛu u'lhorā
who powerful is meanwhile warm coat wearing a traveller thither
au. ɛn 'duieṛ ɛ gall 'rakhi ki zɛ 'Agri bəṭōṛeru koṭ
came by-them this thing was-fixed that who first traveller's coat

khôlêlo, te 'zore'balo bholo. tēspuṛ bat 'zore-seī 'bhōṇe 'lago,
will-remove he powerful will-be this-on wind force-with to-blow began
tā te bēṭṭṛu 'appṇu kōṭ 'zore-seī appṇi jani-seī 'bheṛne
then that traveller his coat force-with his body-with to-wrap
'lago. bat 'phiri 'heṭi jau. 'phiri dī'hāṛo 'tezi-seī 'niṣso, 'phiri
began wind then drew-back then sun force-with came-out then
'ṭeni bēṭṭṛe 'appṇu kōṭ 'lyji khōli 'ṣhaddu. o'lhere-lei 'baṭe
by-that traveller his coat quickly was cast-off this-owing-to wind
'manṇu peṭi ki ṣaṇ duiṇ-maz dī'hāṛo jade 'zore-balo ṛe.
to-admit had-to that us two among sun more powerful is

(2) *Bhalesī*.

'uttrēu bat te dī'hāṛo
northern wind and sun

'uttrēu bat te dī'hāṛo 'iṣi 'galle-puṛ larte thie, ki ṣaṇ
northern wind and sun this thing-on quarrelling were that us
duiṇmaz 'kaṇu 'zore-balo ṛe. 'etrumaz niṅgu kōṭ lei ṛek
two-among who powerful is meanwhile warm coat wearing a
mu'jaṭṛ u'dhoṛia au. 'inē duiṇ maz i gall kheṛi ki
traveller from-thither came them two-between this thing was-fixed that
'zekh^u aṛi mu'jaṭṛeu kōṭ u'kholeṭu 'teḥe zore-balu 'bhol^u.
whoever first traveller's coat will-remove he-alone powerful will be
tēspuṛ bat zore-seī 'bhōṇe lago, paṛ 'ziṭ—ziṭ bat zore-seī
this-on wind force-with to blow began but as—as wind force-with
'bhōṇe lago, 'tātā te mu'jaṭṛ 'appṇu kōṭ zore-seī 'appṇi
blow-to began so-so that traveller his coat force-with his
jani-puṛ 'ṣekkṇe lago 'phiri bat 'mukkigēu. 'phiri dī'hāṛo tezi-seī
body-on press-to began then wind finished was then sun force-with
niṣso, 'phiri 'ṭeni mu'japhre 'appṇu kōṭ u'kholi ṣhaṛu. ṛi'e-lei
came-out then by-that traveller his coat put-off was this-owing-to
'bate 'manṇu peṭi ki ṣaṇ du hiṇe maz dī'hāṛo: jade
by-the-wind to-admit was that of-us both between sun-only more
zore-balo ṛe.
powerful is

(3) *Khaśūli*.

'uttrara bat te dī'hāṛa
north-of wind and sun

bat te dī'hāṛa ēa 'galla-tir 'laṛne lagure thie ki ā duiṭ
wind and sun this thing-on to-dispute beginning were that us both
mā kaṇṇṛa 'zora wala ṛe. 'etremā u'ṇa'la kōṭ 'lāida ṛek
between who powerful is meanwhile warm coat wearing a
'battmergu utōṇā a. eṇā duiṭ-mā i jart ṭhēri
traveller on-that-side came these-two-between this condition was-fixed
ki ze 'aṛi batt'merguara kōṭ khōlla, te te 'zorawala 'bhola
that who first traveller's coat will-remove then he powerful will-be

tê-tir bat zora-seī calne laga; par zā-zā bat zora-seī 'calne
 this-on wind force-with to-blow began but as-as wind force-with blow-to
 laga, tātā tē batt'mergu ṁṇa koṭ 'apni jmda-seī bherne laga.
 began, so-so that traveller his coat his body-with to-press began
 bat phiri 'haṭi gea. 'phiri dī'haṛa 'teza-seī nissa; 'phiri 'ṭeni
 wind then left-off then sun force-with rose then by-that
 batt'merguṣ ṁṇa koṭ taoia 'khôli-saṛa. 'ēṭṭatta 'bata 'manṇu
 traveller his coat soon was put-off this-on by-wind to-admit
 pēṭ ki ā duiṣ mā dī'haṛa 'z-rawala ese.
 had that us both between sun powerful, is

NOTES

(1) *Phonetics.*

(a) Bhadarwāli [ʌ], as in 'laṛne 'disputing', gall 'thing' is much more back than the standard Hindustani [ʌ]. It resembles Southern English [ʌ].

(b) Bhalesi [ɪ] at the end of words, as in jani-, is a remarkable feature of the dialect, being very lax and resembling the final vowel of the English word 'baby'.

(c) Bhal. [ʊ] at the end of words is another striking feature of this dialect. This [ʊ] is very delicate, sometimes extremely difficult to hear, as in the words bhol^ʊ 'will be' 'ze kh^ʊ 'whoever'. This feature of the dialect resembles the well-known phenomenon of delicate final vowels in Kashmiri.

(d) Bhad. [ɸ], as in betḥṛu 'traveller' is more lax than the corresponding French sound.

(e) Bhad. [ɣ] as in 'lyfi 'quickly' is more lax than the corresponding French sound.

(f) Bhal. [ɸ], as in mu'jaḥṛ, verges more on the bi-labial fricative, but it has a little occlusion.

(2) *Phonology (in the older, philological sense.)*

(a) Khaś [ʊ] in unstressed syllables appears to be a later stage, which the vowel [o] has undergone, a preceding stage appearing in Bhad., wherein the corresponding vowel is [ɔ], being more back. Cf. the following words in the text:—

	<i>Khaś.</i>		<i>Bhad.</i>
	'lagure	'(were) beginning'	lagore
Also cf.	'zarmura	'had born'	'zarmoro
	'zitura	'had won'	'zitoro

(b) The initial [ʊ] in Bhal. u'kholēlu 'will remove' goes back to PIA ava- down, as in Hindi utarnā 'to descend'.

(c) The mutation of vowels, as appearing in Bhad. 'heṭṭiau 'drew back'—the [ʌ] of 'haṭnu 'to draw back' being changed to ε in 'heṭi, under

the influence of the final [i]—is a very prominent feature of both Bhad. and Bhal. cf. in the texts above :—

<i>Khaś.</i>	<i>Bhad.</i>	<i>Bhal.</i>
'laīda	leiṭā	lei 'having put on'.

Here the [a] of the verb ['la'nu] 'to put on' remains unchanged in Khaś. 'lāida, but is changed to [e] in Bhad. and Bhal. Also cf. the following :—

<i>Khaś.</i>	<i>Bhad.</i>
'bhoitā	'bhōitā 'having become'.
'dhoitā	'dhōitā 'having washed'.
'puzzitā	'pyztā 'having reached'.

Nevertheless, even in Khaś. there are some tendencies for this vocalic mutation cf.

Khaś	māli 'mother' pl. mēli
	'maḥli 'fish' pl. 'meḥli

(d) Khaśāli syncopation by elision of the vowel between two l's may be noticed in the following Khaś. as against the Bhad. words in the texts :—

<i>Khaś.</i>	<i>Bhad.</i>
khōlla	khōlelo 'will remove'.
cf. 'calla	'ēalelo 'went'.

Cf. Konkāṇi (Marāṭhi) gello 'went' but Ratnagiri (Marāṭhi) gēlēlō 'went'. L.S.I. Vol. VII, p. 408.

(e) The elision of suffical [r] is characteristic of Bhalesi, as appearing in Bhal. 'uttreu 'northern' as against Bhad. 'uttreo cf.

<i>Bhal.</i>	<i>Bhad.</i>	<i>Khaś.</i>
ki'o	ki'c're	gr'u're 'they have or had been done'.
'ghoṛeu	'ghoṛero	'ghoṛera 'of the horse'.

(f) In Khaś. the intervocalic [s] of pronouns is changed into the high-falling tone. Cf.

<i>Bhad.</i>	<i>Bhal.</i>	<i>Khaś.</i>
is	'isi	êa 'this' (oblique).
as	as	â 'we'.

Cf. my 'Dialects of the Khaśāli group' (1939), p. 4.

(g) Bhad. and Bhal. have intervocalic [b] as against [w] of Khaś. in

<i>Khaś.</i>	<i>Bhad.</i>	<i>Bhal.</i>
'zorewala	'zorebalo	'zorebalo 'powerful'.

(h) Khaś. has [s] for ḥh of Bhad. and Bhal. in :—

<i>Bhad.</i>	<i>Bhal.</i>	<i>Khaś.</i>
'ḥhaḍḍu	'ḥhaṛu	'saṛa 'gave up', auxiliary in the sense of 'off'.

(i) Corresponding to Bhad. u'lhorū 'from that side', Bhal. has u'dho'ria, cf. Hindustani udharko 'to that side'. If [lh] in the Bhad.

word phonologically corresponds to [dh] in the Bhal. correspondent, it is an interesting change, but it awaits confirmation by more examples.

(3) Grammar.

(a) The gender of bat 'wind' in all the three dialects is masculine, exactly corresponding to the gender of Sanskrit vātaḥ. On the contrary. Panjābī [va] and Ḍogri [ba] 'wind' are feminine.

The gender of koṭ in Bhad. and Bhal. is neuter, as the adjectives u'ṇa'lu and nṅgu 'warm' show, but in Khaś., indicated by the adjective u'ṇa'la, it is masculine. In all the three dialects we have naturally a double neuter gender in 'manṇu peṭh' 'had to admit', corresponding to Hindi mānna parā, because the (impersonal) infinitive in these dialects is formed with the neuter termination [u].

(b) Though Khaś. is essentially a Pahārī dialect, as are Bhad. and Bhal., yet Khaś. nouns corresponding to PIA nouns in -aka end in [-a], while Bhad. and Bhal. nouns of this type end in [-o], cf. Khaś. d'r'hara 'the sun', but Bhad., Bhal. d'r'haro. As a cursory glance through the above map will show, Khaś. is geographically nearer to Ḍogri than are Bhad. and Bhal., and so the influence of Ḍogri on the Khaśāli nouns of this type may be suspected.

(c) The first [a] of Khaś. 'uttrara 'of the north' is characteristic of the dialect, as distinct from [e] of Bhad. 'uttrero 'of the north'. For as has been pointed out in my treatise 'Dialects of the Khaśāli group' (p. 9), in Khaś. the oblique of all non-feminine nouns ending in consonants has the ending -a before the final suffix -ra. This [-a] also occurs in Khaś. 'gallatir 'on this thing', for some feminine words of this type like gall, zib, also form their oblique with the ending [-a]. Also cf. Khaś. 'zora-sei 'with force' but Bhad. Bhal. 'zore-sei.

(d) The locative ending in both Bhal. and Bhad. is -puṛ, as in Bhad. 'galli-puṛ, Bhal. 'galle-puṛ 'on (this) thing', possibly corresponding to PIA pr̥sthā-, cf. Kashmirī pjaṭh 'on', but the Khaś. ending -tir as in 'gallatir 'on (this) thing' possibly goes back to PIA tala-.

(4) Vocabulary.

The following words in the above texts may be of special interest :—

Bhad. 'uttreinero 'northern' reminds one of PIA uttarāyaṇa-, but the occurrence of [n] instead of [ṇ] stands in the way of accepting any such correspondence.

For Bhad. bəṭṭru 'a traveller', cf. Panj. vāḍi 'a traveller', so that in the Bhad. word we have possibly a conglomerate of the word batt 'a path' + vah + the suffix [-ḍ].

In Khaś. 'battmergu 'traveller' lit. 'path-seeker', the second element seems to be a semi-tatsama word, corresponding to PIA √mārg- 'to seek'. In Bhal. 'zekh' 'whoever', fem. ze'kh', we have the indefinitive suffix kh',

kh', cf. Hindi jokoi 'whoever', which however, has no phonological correspondence with it.

In Bhal. 'mukkigeu 'withdrew' lit. 'was finished', we have an unusual idiomatic use of 'mukṇu 'to be finished'.

In Khas. jmd 'body', Bhal. Bhad. jan, we have the words for the human body. These words are sometimes used, secondarily in this sense in Panj. as well, though here 'pṛṇḍa is the more current word for the 'body', the former words being used more in the sense of 'life' or 'physical condition'.

The sense of Bhad. u'ṇa'lu 'warm' used for cloth would sound curious to a Lahnda speaker, to whom hu'ṇa'la, the corresponding form, means only the Summer Season.

REVIEWS OF BOOKS.

A DESCRIPTIVE CATALOGUE OF PERSIAN, URDU AND ARABIC MANUSCRIPTS IN THE PUNJAB UNIVERSITY LIBRARY: VOLUME I, PERSIAN MANUSCRIPTS; FASCICULUS I: HISTORY; pp. ii, 130; by Dr. S. M. 'ABDULLĀH, M.A., D.Litt., with a Preface by Professor Muḥammad Shafī, Lahore, 1942.

The Punjab University has a good collection of Islamic manuscripts; it comprised about 2,500 volumes at the end of 1941—the number of Persian Mss. totalling 1,658. Dr. 'Abdullāh's *Catalogue* contains descriptive notices of 188 Persian historical works. Among the works noticed none can be said to be unique, but there are some which, no doubt, are rare. A copy of the very rare history and genealogy of the Ṣafawī Kings of Īrān (No. 62), composed during the reign of Shāh Sulaymān Ṣafawī, deserves a closer examination. Among the works dealing with Indian history are (i) a valuable copy of the Persian version of the *Memoirs* of Babur (No. 102) transcribed during the life-time of its translator, 'Abdur Raḥīm, Khān-i-Khānān, in 1021/1612; (ii) a contemporary copy of the *Memoirs* of Jahāngīr (up to the 12th year of his reign), copied by the well-known calligraphist Mullā Muḥammad; and (iii) a copy of Muḥammad Ma'sūm's *Tārīkh-i-Sind* (No. 156) transcribed in 1017/1608, or within a year or two of the author's death, which took place soon after 1015/1606-7.

The notices are usually brief, but the more valuable manuscripts have been described at some length as for instance Mss. Nos. 4 and 62. We have some suggestions to offer for increasing the usefulness of the *Catalogue* to readers. In the first instance, an attempt should be made to give the approximate date of transcription in the case of undated Mss.; secondly, the dates, names and other particulars contained in the seals and the 'Arḍīdas should be quoted in full—the omission of these details from Nos. 4 and 115 is to be regretted; thirdly, the colophons of the Mss., which contain particulars about the copyist, the date of transcription, etc. should invariably be quoted; and fourthly, the additional information which has come to light after the publication of the *Catalogues* of Rieu, Ethé, 'Abdul Muqtadir and Ivanow should be incorporated in the *Catalogue*, as Dr. 'Abdullāh has done in the case of Ms. No. 96. It may be pointed out that the learned Cataloguer has omitted to mention that an edition of *Tārīkh-i-Sind* (Ms. No. 156) by Dr. Dā'ūdpoṭā was published by the Bhandarkar Institute, Poona, in 1938; that extracts from the *Tārīkh-i-Rashidī* (No. 48) and the *Mir'at-ul 'Ālam* (No. 10), relating to the calligraphists, etc. have been published by Professor Muḥammad Shafī in the *Oriental College Magazine*, Lahore, May, 1934 (Serial No. 37), pp. 150-170 and August, 1934 (Serial No. 38), pp. 31-65, respectively; and that an English translation of the notices of Persian painters contained in the former work was published by the late Sir Thomas Arnold in the *Bulletin of the School of Oriental Studies*, Vol. 5, 1928-30, pp. 671-74.

There are some minor slips: for instance, Jharumī for Jahrumī (p. 44a) and روى for روى.

Dr. 'Abdullāh has done his work with care, precision and accuracy, and provided us with a highly useful *Catalogue*.

M. M. HAQ.

HOLY PLACES OF INDIA. By BIMALA CHURN LAW. Calcutta Geographical Society, publication No. 3. Calcutta 1940. 57 pp., 3 maps and 8 plates.

Dr. B. C. Law is well-known to Indologists for his numerous and valuable publications bearing on Buddhism and on the ancient Ethnology and Geography of India. In the present monograph the author has turned his inexhaustible pen to another useful subject, namely, the study of the holy places of Modern India. His work containing short notices of the leading sacred places of Hindus, Buddhists and Jainas, arranged according to localities, and illustrated with excellent maps and some fine plates, brings together in a handy form a mass of information lying scattered elsewhere. A good Index adds to the usefulness of this work which needs only a section on the holy places of Islam to make it complete.

U. N. GHOSHAL.

GAUTAM BUDDHA (in Bengali). By Dr. BIMALA CHURN LAW, 128 pages, Royal Octavo, published by Gurudas Chattopadhyaya and Sons, Price Rs.1-8.

The author who is a renowned scholar of Buddhism has thought it fit to bring out a popular account of the life and predication of Buddha with suitable and attractive illustrations selected out of the valuable pieces of antique sculptures. Although the account is a popular presentation of the subject, it is no less authoritative. Unlike his predecessors in this field he has judiciously selected such accounts of Buddha from the available Pali and Sanskrit texts as may be of use in giving a fairly reliable account of the founder of the Buddhist religion. He has rejected the fairy tales and stories of the supernatural activities of Buddha and pieced together those accounts which speak of him as a great religious teacher endowed with the highest spiritual qualities. The author has tried to give a connected picture of the life of Buddha, as far as possible, from his birth up to his demise. He has also added two chapters on the Buddhist community and the Buddhist religion and philosophy. His style is simple and lucid and his presentation highly commendable. It is a nice little book which will be of great use to the Bengali readers.

P. C. BAGCHI.

THE RISE OF THE FATIMIDS. By W. IVANOW. 8½ in. × 5½ in., pp. xxii + 313 + 113. Islamic Research Association Series, No. 10. Oxford University Press, 1942.

Mr. Ivanow is already well-known to the students of Fatimid history and of Ismá'ílí literature by his edition of some important Ismá'ílí texts and by his interesting and instructive researches connected with the subject. In the book under review he gives the results of his researches on some of the important problems connected with the rise of the Ismá'ílí movement, and publishes extracts from five important Ismá'ílí texts together with the English translation of some of these texts as well as that of some other texts published by him earlier.

In discussing some of the important and knotty problems connected with the rise of the Fatimids, e.g. the genealogy of 'Ubaydulláh-al-Mahdí, the founder of Fatimid dynasty of Africa and Egypt, and what he calls

'the myth of 'Abdullāh b. Maymūn al-Qaddāh, the great organizer of the Fatimid movement, the author shows his thorough familiarity not only with the rich European literature on the subject, but also with the original Arabic Ismā'īlī and non-Ismā'īlī sources. And it is on the latter that he has mainly relied for his researches and conclusions. But in editing the texts he does not appear to have been very careful. For grammatical mistakes in them are not uncommon. The English translations of these texts also are not always exact.

The author's criticism of the accepted views with regard to the genealogy of ab-Mahdī is thorough as well as deep. And his discussion of the story of 'Abdullāh b. Maymūn is forceful and scholarly. But his main argument is of negative character. The early Ismā'īlī literature make no mention of the story al-Qaddāh, therefore what has been described by the later Ismā'īlī writers, must have been based on the forgery of the anti-Fatimids. This argument may not appear to be quite logical. But its force cannot be denied. And in the absence of any strong proof in favour of the generally accepted theory, the cautious conclusion arrived at by Ivanow must be accepted. He says 'there is very little probability that Ibn al-Qaddāh played any prominent part in the launching of the Ismā'īlī doctrine, and there obviously is no foundation whatever to regard him as the progenitor of the Fatimids'.

'The Rise of the Fatimids,' however, is a valuable addition to the literature on the subject.

M. Z. S.

FORTUNES OF PRIMITIVE TRIBES. By D. N. MAJUMDAR, Universal Publishers, Ltd., Lucknow, 1944. pp. xix+234. Price Rs.12.

This book is said to be the first of a series of four volumes on the tribal cultures of the United Provinces. This volume is in a sense an introductory one and contains a general description of the life of three representative tribes, and a chapter on a fourth class, 'the wandering, vagrant and criminal tribes'. The book is interestingly written and on the whole the photographic reproductions are excellent.

The introduction sketches the theories concerning the racial history of India and discusses some of the main characteristics and distribution of primitive groups. The origin and plan of the series beginning with this volume is set forth and shows the interest of the United Provinces Government, the Central Government and Lucknow University in anthropological studies.

The three tribes whose life and fortunes are delineated belong to different parts of the United Provinces and are distinguished one from the other in important ways giving a cross section of the field. The Korwas live in the Mirzapore District of southern United Provinces and represent the pre-Dravidian Australoid stock. Dr. Majumdar has recorded significant studies in the blood grouping of this tribe, which is a small one and numbers not more than 400 persons. It is confined to the Dudhi Tahsil of Mirzapore. The author sketches their customs and outlooks. Much needs yet to be done by way of supplementary work. The account is interesting and the author has collected many significant facts.

The Tharus come next. 'While the Korwas represent the most primitive element in the population of the United Provinces and a culture that is facing disintegration, the Tharus on the other hand, represent the most interesting of the tribes' (p. 65). They exhibit a vitality which is enabling

them to adapt themselves to a changed and changing economic environment. The 1931 Census reported 77,021 Tharus of which some 30,000 belong to the Naini Tal District in the United Provinces. The Tharus of Naini Tal District claim to be related to the Rajputs of northern India. Other primitive tribes make this same claim. Without doubt they are a mixed people and have included varying elements in their culture. The author believes that much of the evidence leads to the conclusion that they are a Mongoloid people who have assimilated non-Mongolian features. The chapter contains an interesting, if not systematic, description of their customs and a sympathetic evaluation of their life.

The Khasas or the Khasiyas represent the high caste polyandrous people of the cis-Himalayan region and are found largely in the hill parganah of Jaunsar-Bawar in the Dehra Dun district. The author states that there is ample evidence of racial similarity with the inhabitants of Kashmir, and should thus be considered an Indo-Aryan tribe. They are mainly agriculturists. This particular study discusses many of the common features of beliefs and customs prevalent in this area. There is a blending of Hindu and tribal rites throughout and the result is interesting.

The two closing chapters give us a brief description of the so-called criminal tribes of the United Provinces and also set forth the tribal economy and social vigilance of the above and other groups. A further discussion along this line is to follow in a later publication.

This book is recommended to all persons interested in the fortunes of the primitive tribes. What the work lacks in systematic presentation is made up in human interest. Wide fields have been left unsurveyed and the author would, no doubt, agree that what is recorded here is but an introduction to a vast store of human interest. There are some mistakes in spelling and the book would be more readable if there were headings to indicate the general topic under discussion.

W. G. GRIFFITHS.

ANUPASIMHA GUṆĀVATĀRA. By VIṬṬHALA KRṢṢṆA. Edited by C. Kunhan Raja. Ganga Oriental Series, Dedicatory Volume. Anup Sanskrit Library, Bikaner, 1942.

The present work is the first and the dedicatory volume of the Ganga Oriental Series, started under the auspices of the Anup Sanskrit Library, Bikaner with the patronage of His Highness Maharaja Sri Ganga Singhji for publishing the rare and valuable works in the Library. Maharaja Anup Singhji Bahadur (1669-1698) was an enlightened prince of the Bikaner family. Himself a distinguished scholar and poet he was also a munificent patron of scholars and poets of his age. It was he who collected the rare and valuable manuscripts, which form the nucleus and main feature of the Library named after him, and it is in the fitness of things that the dedicatory volume of the series should be a work which extols the virtues of the illustrious founder of the Library.

The present work consists of 103 verses divided into ten *avatāras* or sections, the first of which contains verses invoking blessings on the prince, whose great merits and virtues are extolled in the remaining sections. The editor has added a translation to each verse, except in cases where the text is defective or does not afford clear sense. The purely eulogistic character of the verses are evident, but one cannot but be attracted by the sweet and sonorous style, beautiful in diction and rich in imagery. Some of the verses are elegant examples of classical Sanskrit poetry and

there are somewhere parallelisms with similar verses of earlier poets can easily be recognized.

An introduction, supplying information about the author, the materials upon which the edition is based and other related matters, would have much enhanced the value of the publication, and the absence of such information is to be regretted. There are several lacunae in some of the verses, possibly due to a lack of adequate manuscript material for a proper editing of the work.

The Anup Sanskrit Library and the Bikaner Durbar are to be congratulated for initiating the series, which is expected to make useful contributions in the field of oriental studies.

S. K. SARASWATI.

THE D. R. BHANDARKAR VOLUME. Edited by DR. BIMALA CHURN LAW.
Published by the Indian Research Institute.

The volume, *prima facie*, possesses the merit of bearing the name of a great scholar, an eminent professor and an extremely genial man. Again, it is edited by a selfless Pandit known in Europe and Asia for his brilliant and diligent work in Buddhist lore, and famous in our country for his patronage of literary men and institutions. Behind these two savants stands an indefatigable and efficient worker in the field of Indology—Seal—of the Indian Research Institute—a familiar figure to the intellectual society of Calcutta.

Regarding the volume itself, it contains 50 articles and covers 382 pages. The choice of authors and subjects has been particularly happy. The whole range of Indian history has been surveyed though necessarily only some of its particular aspects and from certain specialized angles. Thus we find a discussion by Roy of 'the racial affinity between the Brahuīs and the Dravidians', and also asked by Jha 'if the Aryan invasion of India was a myth'. Light is thrown by Chatterjee on 'a historical character of the reign of Asoka Maurya', by Barua on the 'interpretation of' 'the edicts of Asoka', by Chabra on 'the office of Uparika', by Lüders on 'the era of Mahārāja and the Mahārāja Rājātirāja'. We also find valuable dissertations on 'Guhilot origins' and 'the early life of Rāṇā Saṅga', 'the struggle between Delhi and Mewar in the 13th century', and the 'imperialism of Sultan Bahadur of Gujrat'—all themes of Mediaeval History. Again chapters of Modern Indian History have also been commented upon, e.g. by Abdul Ali in the paper entitled 'The failure of Tipu Sultan' and 'Some Home Department Records'. Majumdar with the main object of writing something useful on Ancient India, has admirably succeeded in illuminating the extremely dark topic of Bengal river-beds. His masterly pen, as usual, has brought out the essential points out of a mass of verbiage-points which are indispensable to every worker on the 16th, 17th and 18th centuries of the history of our country. Social, cultural, religious and philosophical evolution of Indians through the ages has also not been ignored.

In a capable and scholarly style, Chakravarti has written on 'A Tantra Work on the Cult of Pañcānana', and Keith on 'The Greek kingdoms and Indian literature'; Horner on '*Cetovimutti* and a changing Pīṭakan value', and Strauss on 'Jīva and Paramātman'; Gode on 'The chronology of the works of Khaṇḍadeva', and De on Pālākāpya's *Hastyāyurveda*; Saletore on 'Vaiṣṇavism in Vijayanagara', and Aiyangar on 'Vasu uparichara

and animal sacrifice'; Adhikari on 'Indian Aesthetics', and Acharya on 'Architecture'. Scholars—Indian and European—have succeeded in giving us invaluable information on aspects of Indian life, the study of which have engaged their life-long attention. The volume is welcome in all libraries and will continue to serve as a work of reference to the students of history, politics, philosophy and literature. The arrangement of the articles either according to subject or chronology is however desirable, and we are sure that this will be effected in the next edition.

JATIS DE.

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- (1) THE NEW OFFICIAL CHINESE LATIN SCRIPT—GWOYEU ROMATZYH—TABLES, RULES, ILLUSTRATIVE EXAMPLES. By W. SIMON, Ph.D., Reader in Chinese in the University of London. Arthur Probsthain, London, 1942. Paper, pp. 63.
- (2) CHINESE SENTENCE SERIES—FIRST FIFTY LESSONS. By W. SIMON, Ph.D., and C. H. LU, Ph.D. Part I—Text in Gwoyeu Romatzyh with Translation. Arthur Probsthain, London, 1942, pp. 230. Cloth, 8s. 6d.

The Chinese script is a unique product of Chinese civilization, and being largely pictographic and ideographic in origin and application, with but a very limited phonetic or phonographic scope, it has been able to serve a literary language which is intended more to be read with the eye than heard with the ear. From an original single ancient Chinese speech which was confined to a part of North China some 2,500 years ago, with a single type of pronunciation, written in a script in which the representation of sounds was but a secondary thing, we have now as the result of normal development a number of modern Chinese dialects (or languages), with widely different pronunciations and in many cases with new structural modifications as a result of phonetic change. China has thus no common or uniform modern speech: her scholars have been using until very recently the old literary language, pronounced differently in the different areas, but understood everywhere when seen with the eye, although not followed everywhere when read with one type of local pronunciation. It is well-nigh impossible to make a single language out of the many that really obtain in China at the present day, by bringing in a system of writing like the Roman which indicates only sounds. How to devise a spelling based on a phonetic script like the Roman which will serve three forms of modern Chinese in which the same two pictogrammic and ideogrammic characters are pronounced so diversely as *Yuan Chuang*, *Hsüan Chwang* and *Hüen Ts'ang*, or two forms of modern Chinese in which the same three characters are pronounced as *Wu Lien-teh* and *Ngoe Lim-tock*? There are other complications—as Chinese words must be pronounced with proper tones, and in the Roman writing indicating sounds the tones also must be shown: there are four tones in Pekinese, and eight in Cantonese, and these often do not agree.

Obviously, the unification of the whole of China, i.e. of all the various forms of modern Chinese, by means of a phonetic alphabet like the Roman, excluding the old Chinese characters, is a thing which is not to be: and scholars of China, and following them the bulk of the Chinese people, appear to have accepted the inevitable—they have followed the

old Sanskrit adage, *sarvanāśe samutpannē ardham tyajati paṇḍitaḥ* 'a wise man abandons half when the loss of all is imminent'. Of the 18 dialects of Chinese (or modern Chinese languages), it is found that one major dialect with its numerous sub-dialects is current over 3rds, if not 4ths of China. This major dialect or speech belongs to the North, the Centre and the West and the South-West, and it was known usually as *Kuan Hua*, or 'Mandarin Speech', as it was the colloquial employed by the officials in the old regime. A modified form of this *Kuan Hua*, based to some extent on the colloquial of Peking, and seeking to unify all the various sub-dialects which come under it, has now been adopted by Nationalistic China as the National Language of Modern China, and has been glorified with the name of *Kuo-yü* (or *Gwoyeu*), 'the Country Speech'. All Chinese people must learn this: those whose home dialects differ largely from this *Kuan Hua*, or *Kuo-yü*,—in fact, whose dialects cannot be classed as sub-dialects or variants of this, and form different languages (particularly the people of the South and South-East of China),—will have to make a great sacrifice for the sake of national, pan-Sinic unity, viz. that of foregoing the privilege of cultivating their own dialects or using it in education and public life; and since there has not been much study or cultivation of the local dialects in the imperial regime, or in the republican regime either, 'this is not felt as much of a hardship. The problem of Romanization has thus been reduced to the Romanization of modern Chinese in a standardized Mandarin or North Chinese dialect (this standardized Mandarin, written as before in the usual Chinese characters, has already been achieved in the hands of a body of eminent Chinese literary men), in their sounds as well as the important sound-attribute of tone or musical accent which is of significant value (in other words, which serves to differentiate words of various meanings). Mandarin, and its Peking variety were already Romanized by European scholars, and two systems, that of the Englishman Sir Thomas Wade, and a French system, are commonly in use. But neither of these ordinarily indicate the tones. Sometimes special accent marks either detached, or capped upon the vowel letters, are used with both the Wade and the French systems; and sometimes the numerals 1, 2, 3, 4 for the four tones of Northern Mandarin superscribed over the Roman transcription of a Chinese word are used in the Wade system.

All this was exceedingly cumbrous, and rather unpractical; and scholars of Chinese, both Chinese and Western, were much exercised to find out a system of Romanization which would give a tolerable representation of the pronunciation of an all-embracing standardized Mandarin, together with the tones, with the help of the ordinary Roman letters used in printing English, without any diacritical marks; and this Romanization should be done in such a way that it would be an adequate reflex of the phonology or historical development and inter-connexion of the sounds of the Chinese words. After a good deal of experimentation, such a system of Romanization has at last been devised, and it has been finally adopted (or at least recommended) by the Chinese Government. This is the *Gwoyeu Romatzyh* or 'the National Roman Script', and the scholar primarily responsible for it is Dr. Chao Yüan-jên (Jaw Yuanren). Dr. Bernhard Karlgren, the eminent Swedish sinologist who is an authority on Chinese Phonetics and Phonology, expressed his doubts as to the suitability of this system in his valuable little book *Philology and Ancient China* (Oslo, 1926). But it would appear that nothing more practical and at the same time more scientific could be devised by the best brains of China and Europe. This system does away with the rather exasperating ambiguity of writing four distinct words with different

tones all in one way: *Kuai*, with four tones (*Kuai*¹, *Kuai*², *Kuai*³, *Kuai*⁴) would be written in this system as *guai*, *gwai*, *goai*, *guay* respectively, the vowel or the semivowel (*u*, *w*, *i*, *y*)-in an ingenious manner indicating the tone element in the word. The result is that for Chinese in a standard Mandarin or Northern dialect, we have a clear, unambiguous phonetic Roman orthography, which gives four distinct forms for four different words previously written as one: and that is a very great advance in the study of Chinese through the Roman script—one may say that half the battle is gained in Chinese. By this system, two distinct compound words, written simply *Kuo-yü* in the Wade system (or *Kuo*²-*yü*³, and *Kuo*⁴-*yü*², if numerals are used for tones), one (*Kuo*²-*yü*³) meaning 'National Language' and the other (*Kuo*⁴-*yü*²) meaning 'too, too much', are very easily and perfectly differentiated as *Guoyeu* and *guoh-yu* respectively. In the proper resolution of orthographic homophones, the value of such a system can be easily appreciated.

This new spelling has not as yet been widely adopted, though following the initiative of the government, many Chinese scholars are now Romanizing their names in this system. Superficially, used as we are to the Wade system generally, this new *Gwo-yeu Romatzyh* will alter the face of Romanized Chinese: it would take us some time to see *Chiang Kai-shek* (or *Kai-shih*) in *Jiang Gaishy*, and to make out the Chinese equivalents for the first ten numerals, *i*¹, *érh*⁴, *san*¹, *ssü*⁴, *wu*³, *liu*⁴, *ch'i*¹, *pa*¹, *chiu*³ and *shih*² in *i*, *ell*, *san*, *syh*, *wuu*, *liow*, *chi*, *ba*, *jeou* and *shyr* (it should be noted that *r* at the end or middle of a word in the new Romanization serves as tone-indicator, and has no sound value). The new spelling will, with its use of the voiced letters *b*, *d*, *g*, *j* and plain, simple *p*, *t*, *k*, *ch* (respectively in place of *p*, *t*, *k*, *ch* and *p'*, *t'*, *k'*, *ch'* as before) and with its use of *r*, give a certain vigorous and muscular appearance, so to say, to Chinese words in Romanization, which is totally lacking in the Wade system.

I shall not proceed to detail this novel and exceedingly well-planned *Gwoyeu Romatzyh*: the two books under review give a very good elucidation of it, and those who are specially interested in Chinese, as well as those who are interested in general phonetics, will find it quite fascinating. Very helpful are the tables giving equivalents of the new system in the script of the *International Phonetic Association*, and in the current Wade system. The first work, which is just a little more than a pamphlet, gives the principles underlying the system, with tables of syllable concordances, besides some lessons in the new *Kuo-yü* (*Gwoyeu*) and English translations on the opposite page, with Wade equivalents of the first few lessons and a word for word English translation. The second book aims at teaching colloquial Chinese (in the National Speech), in 25 lessons in the *Gwoyeu Romatzyh*. There cannot be any question that the new script will be a decided advantage; and one feels inclined to congratulate the Chinese people—at least, those among them who speak and use the new National Language,—as well as those who are interested in the Chinese language and in Chinese culture, on this newly formulated National Sino-Roman Script and Orthography.

SUNITI KUMAR CHATTERJI.

- (1) **TIBETAN WORD BOOK.** By SIR BASIL GOULD, C.M.G., C.I.E., I.C.S., Political Officer in Sikkim and British Political Representative in Tibet and Bhutan, and HUGH EDWARD RICHARDSON, I.C.S., formerly British Trade Agent at Gyantse, Tibet, and in charge of the British Mission at Lhasa: with a Foreword by Sir Aurel Stein, K.C.I.E., F.B.A., Ph.D. Oxford University Press, Indian Branch, 1943; Royal 8vo., pp. xvi, 447. (The text of the book is reproduced from type-script and from handwriting for the Tibetan words.)
- (2) **TIBETAN SYLLABLES.** By SIR BASIL GOULD and H.E. RICHARDSON. Oxford University Press, 1943. Crown 8vo., pp. x, 120.
- (3) **TIBETAN SENTENCES.** By the same authors. Oxford University Press, 1943. Crown 8vo., pp. v, 137.

The above are three most recent publications on the Tibetan language as spoken in Central Tibet at the present day, and are the results of ripe scholarship, and they are sure to be of very great help in acquirement of colloquial as well as written Tibetan. The first of the above is the most considerable work. It gives nearly 2,000 (1,950 to be exact) basic words and roots in Tibetan, arranged in the order of the Tibetan alphabet, with the modern pronunciation in Roman script first, then the original word in Tibetan script, followed by a Roman transliteration of the Tibetan spelling, and then the primary or most important meaning of the word: and finally we have a list of compounds and phrases in which this basic word occurs, in its original or altered sense. Most of these 2,000 words have from 3 to 6 entries under them, and sometimes many more, and from this the scope of the work may easily be appreciated. The Word Book thus forms a very handy and a comprehensive vocabulary of modern Tibetan.

Tibetan Sentences give some 800 colloquial sentences in Tibetan script with modern pronunciation in Roman transcript and English translation below, with reference by number to the *Word Book*. *Tibetan Syllables* forms a sort of phonetic analysis of modern Tibetan, with a note on the Tibetan alphabet and spelling. It gives, in the Tibetan alphabetical order, some 2,000 syllables, i.e. monosyllabic words and word-bases which form the syllabic 'speech-commodity' of modern Tibetan. This list of syllables is exceedingly valuable. But, unfortunately, the phonetic description is not as detailed as it could be expected, e.g. *b d g ž*, etc. unvoiced are represented *p' t' k' sh'*, without any description of these modifications except that these 'are sounded more heavily than similar letters without the mark''; and the question of *tones* in Tibetan is not at all discussed: surely the 11 *se-s* (p. 78 of *Tibetan Syllables*) represented by 11 different spellings in the Tibetan script (and consequently showing the same phonetic convergence of 11 different words of Old Tibetan), e.g. *zas* 'food', *ze* 'bristle', *sad* 'awake', *sre* 'rose', *sras* 'son', *sreg* 'burn', *sres* 'alloy', *gsal* 'clear', *bsad* 'kill', *bsal* 'clear up' and *bse* 'rhinoceros', must, at least partly, be differentiated from each other by tone as a compensation for phonetic loss, as it has happened in the various other languages of the Sino-Tibetan family, e.g. Chinese, Siamese, Burmese and Newari. Similarly the 14 *che-s* (i.e. *chhe-s*, pp. 6, 7) representing in 5 cases the old Tibetan *chad*, and the words *che*, *ched*, *ches*, *mche*, *mched*, must have a significant tone-quality. As a student of phonetics, I would have liked very much to see this matter discussed, as the authors are erudite in Tibetan both written and spoken.

One very interesting thing is noticed from the *Word Book* and the *Syllables*: a very large number of monosyllabic words, or word-roots, nominal and verbal, as well as particles, are 'obsolete in colloquial Tibetan

as a complete word'—they only occur in composition with other words. Thus there are 11 *ka*-s in modern Tibetan, meaning 'the letter *ka*' (<*ka*), 'sugar' (<*ka*), 'pillar' (<*ka*), 'emphatic particle' (<*ka*), 'difficult' (<*dkah*), 'order' (<*bkah*), 'channel' (<*rka*), besides 4 others derived from earlier *ga* meaning four different things, but of these only 4 are current in modern Tibetan as independent words, the rest being used only when compounded with other words. All these obsolete words were in full use as living words in older Tibetan. This means that phonetic decay has made compounding with explanatory adjuncts as necessary in modern Tibetan as, for example, in Northern Chinese; and this forms an additional point of agreement among modern representatives of the Sino-Tibetan linguistic stock.

The general get-up of these books, with covers and end-papers in Bhutanese handmade paper, is excellent, and one feels glad that even in spite of the war the authors have been able to present to the public with such excellent and useful books for the study of one of the most interesting and important languages of the world.

SUNITI KUMAR CHATTERJI.

PESHWA BAJI RAO I AND MARATHA EXPANSION. By V. G. DIGHE. Pp. 235. Price Rs.6. Karnatak Publishing House.

Baji Rao I has been regarded as the greatest figure in Maratha history after Shivaji. Maratha expansionism associated with his name marks the most important phase of Maratha activity in the 18th century. The great Peshwa achieved almost uninterrupted success. A political biography of this remarkable personality, synthesizing all the new materials in different languages that have been discovered in recent years, must therefore be very welcome to all students of the modern history of India.

Dr. Dighe worked under the guidance of Sir Jadunath. It is pleasant to find that in his study of the great Maratha hero he has ascertained the low watermark so that praise and admiration has not been carried too far. In this work we have a very detailed and well-documented account of almost all the important episodes of Baji Rao I's eventful life. Sir Jadunath in his enthusiastic foreword selects for special mention the chapters on the Janjira campaign, the siege of Bassein and the Peshwa at the Raja's court. A careful study of this book clarifies many obscure points and solves some of the puzzles of Maratha history of this period, giving the patient reader a grasp of the realities.

But the reviewer feels that a full story of Maratha expansion should give a very satisfactory account of the attitude of Baji Rao towards Nadir Shah's invasion and the effect of this on Maratha expansion. No new light has been thrown on this important topic and it remains as obscure as before. The advisability of northward expansion in preference to expansion southward has been a disputed point to students of Maratha history. The quotation from *Shahu Charitra* of Chitnis (p. 94) gives us the view of Baji Rao—'The reduction of Karnatak is as good as a domestic affair and can easily be effected by Huzarat troops'. But the view of Baji Rao was more or less well known. The author only puts it in a more emphatic form. We expected a fuller treatment of this subject with a discussion of the views of the contemporaries.

There is a suggestion for the publishers. On the cover there is a picture of Baji Rao on horseback, the horse's hoofs covering the Deccan, its head reaching the Ganges-Jumna Doab. This may impress the chauvinist and the hero-worshipper but on the serious, sober students of history for whom the book is meant the flap will create a very unfavour-

able impression which the book of course will dispel. In his footnote on p. 151 the author should have included Lockhart's *Nadir Shah* in his list of standard histories describing events in Persia.

N. K. SINHA.

NATURE OF CONSCIOUSNESS IN HINDU PHILOSOPHY. By S. K. SAKSENA, M.A., Ph.D. (Lond.). Published by Nand Kishore & Bros., Benares, 1944. Pp. 223 + v. Price Rs.7-8.

The nature of consciousness is one of the burning problems of contemporary philosophy in the West. Idealistic systems of philosophy in the West are generally in favour of the view that consciousness or mind or self is the ultimate reality and is the ground of the world of objects or the system of finite things and beings. But in the school of modern realism, known as neo-realism, the independent existence of consciousness has been altogether denied and it has been sought to be reduced to a special kind of relation among objects, or to a 'cross-section of reality' which is non-mental. In view of such wide divergence of opinions with regard to the nature of consciousness, it is both useful and necessary for philosophers to know what contributions Indian philosophy has made to the study of the problem of consciousness.

The book under review serves this very useful purpose. It gives a clear and complete account of the philosophical speculations of the Hindus on the nature of consciousness from the Vedic period down to the age of the systems of philosophy. The whole course of these speculations has been conveniently divided and treated with special reference to the ontological, the epistemological, the psychological and the transcendental nature of consciousness, and the problem of the relation between consciousness and unconsciousness. Although this method involves some needless repetitions on certain points, it has been more helpful in giving the reader a clear grasp of the main problems with regard to the nature of consciousness. All the important Hindu theories, bearing on the different problems of consciousness, have been fully explained and discussed by the learned author. Following the Advaita Vedānta, he has justified the distinction between a transcendental and an empirical consciousness, and supported the existence of the transcendental consciousness as an eternal, unmodifiable and distinctionless principle which manifests all things and events but transcends all changes and relations. But for the reality of the transcendental consciousness as its pre-supposition we cannot explain our experience of the world of change and plurality, or of the unity and diversity of experience itself, or of the duality of subject and object in experience. This transcendental consciousness is the ultimate reality. How the eternal and free transcendental consciousness manifests itself as the world of changing and limited things and beings is a problem which our intellect or reason cannot solve, but which can only be realized in direct experience or intuition of the transcendent reality. It is here that Hindu philosophy goes beyond the general position of Western philosophy where the value and validity of a supra-rational intuitive experience of the ultimate reality are hardly recognized. This and other distinctive features of Hindu philosophy are contrasted with those of Western philosophy especially in the last chapter of the book. All this has made the work an interesting and illuminating study of the main problems of consciousness. The book should have a wide circulation as it deserves.

S. C. CHATTERJEE.

COMMENTARY BY DEVABODHA ON THE ĀDIPARVAN OF THE MAHĀBHĀRATA.
 Edited by R. N. DANDEKAR. Published by the Bhandarkar Oriental
 Research Institute, Poona, 1941. Price Rs.4.

It is widely known that the Bhandarkar Oriental Research Institute, at Poona, has undertaken an enormous and complicated project in publishing a 'critical' and 'correct' edition of the Mahābhārata. The enterprise has fortunately advanced a great deal. At this stage, the sincere attempt of the Institute to publish the oldest available commentary of the Epic, under the able editorship of Mr. Dandekar is to be eagerly welcomed by all scholars interested in the study of the Mahābhārata and Oriental Studies.

The volume under review is entitled as 'Devabodha-kṛta-tātparyatikā Jñānadīpikā'. It is not, however, a commentary in the strict sense of the term; but it is a concise tikā, i.e. a running annotation on the difficult words and passages in the text. Occasionally, it tries to explain 'constructional obscurities and grammatical difficulties, and gives the gist of passages.' This Tikā of Devabodha is, unlike other available manuscripts of commentaries, unaccompanied by the Epic Text. While giving the gist of the passages, it has usually cited the entire verses (i.e. half ślokas) from the text.

The learned editor has adduced various reasons for the publication of the Tikā—of these the important ones are the following:—

- (1) The Jñānadīpikā, Mahābhāratatātparyatikā by Devabodha is the oldest commentary extant on the Epic.
- (2) Devabodha's commentary is far superior to Nilakanṭha's.
- (3) Important readings from the commentary of Devabodha have been cited in the critical edition of the Mahābhārata, which is being published by the Bhandarkar Oriental Research Institute at Poona.

The first reason is quite correct. Devabodha is certainly the oldest of the hitherto known commentators like Vimalabodha, Arjunamiśra, Sarvajña-Nārāyaṇa, Vādirāja, Ratnagarbha, and Nilakanṭha. All of them cite Devabodha with great respect. In the opinion of Dr. V. S. Sukthankar, 'Arjunamiśra's Artha-dīpikā on the Mahābhārata may be considered as a revised and enlarged edition of the Jñānadīpikā'.

It is an admitted fact that the Mahābhārata must have passed through certain abnormal circumstances of transmission, which make its text-tradition not only 'multiple and polygenous but also bewildering'. Through centuries there has been amazing fusion of versions which cannot now be completely disentangled by purely objective criteria. Now, Devabodha's commentary being the oldest one available throws a flood of light on the above-mentioned problem; for it has retained an interpretation which follows a version (most akin to the Śāradā type), old by at least some couples of centuries. So says Dr. Sukthankar, 'He is, therefore, most likely, the earliest commentator of the Mahābhārata hitherto known, and, in my opinion, is in any case most valuable, and its evidence, both positive and negative, is of supreme importance for the constitution of the text'.

But we differ with the esteemed editor, when he remarks that Devabodha's commentary is far superior to Nilakanṭha's. Nilakanṭha belongs to the last quarter of the seventeenth century and his commentary is the latest one, in wide circulation, on the Mahābhārata. He had an ample opportunity and advantage to go through all the available interpretations and commentaries preceding him and that is why his is an interpretation naturally encyclopaedic in character. Devabodha's commentary, though

not included in Nilakanṭha's verbatim, is but substantially present there. Moreover, for an all-round understanding of the difficult passages, Nilakanṭha's Bhāratabhāvadīpa is more useful than Devabodha's Jñānadīpikā. As regards the correct reading also, Nilakanṭha can safely be relied upon; for he says in his prefatory verses

“बहून् समाहृत्य विभिन्नदेशान् कोशान् विनिश्चित्य च पाठमग्रम् ।
प्राचां गुरुणामनुहृत्य वाचसारभ्यते भारतभावदीपः ॥”

He has selected the best reading, by examining critically the different readings, on the basis of the lexicographic evidences of different provinces. He has not shown even the least possible disrespect for the earlier commentators; for he has said “टौकान्तराणोन्दुरविप्रभाणि” but his commentary is a lamp, small in size but pure and intimate, useful and soothing in the temple-like Bhārata. Besides that, in the interpretation of the obscure and difficult passage or word, Nilakanṭha is more precise and elaborate than Devabodha. For instance in the verse No. 23 of Ādiparvan, chapter 145 (Bangavāsi edition) the commentary of Devabodha runs as—

कक्षः द्योन्धनसमुदायः तं हन्तीति कक्षघ्नः अग्निः । शिशिरघ्नः तुषारघ्नः स एव । महाकक्षे महावने । विलौकसो विलवासिनः । न दहेदित्युक्तेन प्रकारेण । च-शब्दो दृष्टान्ताय । यथा महावने प्रज्वलितोऽग्निर्विलवासिनो न दहेत् तथाप्यत्र गृहादावपि ज्वलन्नग्निर्विलसमाश्रयान्न दहतीति । संकेतेन युधिष्ठिरायात्मनः शरीरस्य रक्षोपायं कथयतीति ॥

while Nilakanṭha interprets:—

कक्षः कुक्षिः पार्श्व इति यावत्, तत्र हन्ति गच्छतीति कक्षघ्नः पार्श्वघ्नः पुरोचन एव ।.....कक्षघ्नः एव शिशिरघ्नः, शृणाति हिनस्तीति शिशिरोऽग्निः, शृ-
हिंसायामित्यस्य रूपम्, तेन हन्तीति शिशिरघ्नः,.....अयमेव पार्श्वघ्नो युष्मानग्निना हन्तुमायातीत्यर्थः । एवं तर्हि अयमेव हन्तव्यः, उत वारणावते तद्गृहं वा न प्रवेष्टव्यं उत वारणावतमगत्वैव हस्तिनपुरं प्रत्येवागन्तव्यमित्याशङ्काह, महाकक्ष इति । महति कं सुखं क्षिणोति इति कक्षयः शत्रुः, वर्णलोपेन कक्षे, महति शत्रौ सखेतत् त्रयं कर्तुमशक्यम्; ज्ञातकपटो हि बलवान् शत्रुः प्रत्यक्षमेव प्रहरेत् इति भावः । कक्षघ्नोऽपि उपाय इत्यत आह, विलौकसो विलान्तःप्रविष्टान् युष्मान् स पुरोचनो न दहेत्, तत्र दाहसम्भावना नास्ति; तत्र गृहान्तर्विलं कर्तव्यमित्यर्थः ।

One can understand easily how much the latter interpretation excels over the former one in point of clearness and fitting up with the context.

About the third reason quoted above we have nothing to say against it; on the other hand, we do appreciate its necessity and utility.

All these considerations tend to show that the Tikā of Devabodha is useful and consequently worth publishing.

Now, who was this Devabodha? The colophon at the end of the commentary of the आदिपर्व shows that Devabodha was a Sannyāsi of the rank of a परमहंस and he was also a परिव्राजक. His Guru was Satyabodha who was also a Sannyāsi of the same rank. Therefrom

we may presume that Devabodha has commented on the Great Epic without any worldly interest.

It is generally supposed that the language of the Mahābhārata is regulated by the principles laid down by महेश्वर and not by Pāṇini; but Devabodha says in his prefatory verses that it was regulated by the माहेश्वर School of Grammar.

Mr. Dandekar has constituted the text of the present volume from three manuscripts, hitherto available. The manuscripts are—B. belonging to the Oriental Institute, Baroda (No. 11372); b. a Devanāgarī manuscript belonging to the same institute (No. 12928); C. a manuscript in the Government collection under the care of the Royal Asiatic Society of Bengal, Calcutta (No. 3397: *Descriptive Catalogue*, Vol. V, p. 150). He has fixed up the correct reading by comparing all the three manuscripts and often with the help of the commentary of Arjunamīśra. Our editor has, however, brought about improvements at some places upon the MSS.-text. In the constituted text, he has restored Saṁdhis on the principle of clarity and has adopted numbers of ślokas and adhyāyas from the critical edition of the Mbh. published by B.O.R.I. The text has been divided into paragraphs according to sections; complete lines or verses from the text are given in separate lines. In the footnotes he has cited the sources of the quotations in the commentary, where possible. In short, he has tried his best to make it a successful and useful edition and it is certainly a success.

The editor has informed us, in his Introduction, that Devabodha's commentary on सभा, उद्योग, भीष्म and द्रोण is also available and the Institute intends publishing it in course of time. We congratulate the editor on his laudable attempt and request him to note that, in view of the success he has achieved in his other works already published, the completion of the publication of the present commentary is a great desideratum, for which the students of the Mahābhārata and Oriental Studies would be eagerly waiting.

KSHITIMOHAN SEN and
NAGENDRANATH CHAKRAVARTI.

THE LAST PESHWA AND THE ENGLISH COMMISSIONERS. By P. C. GUPTA
Pp. 113. Price Rs.6. S. C. Sarkar & Sons, Calcutta.

This study of the life of the last Peshwa in exile is a continuation of the author's previous work on Baji Rao II and the East India Company. But it may also be read as an independent volume. Baji Rao II is not certainly an inspiring figure. A dissertation on his life in exile would appear to many as perhaps unnecessary. But history is not made by heroes only but by weaklings and incapables as well and we should certainly concern ourselves with all factors noble and ignoble, inspiring as also dispiriting if we are to understand aright the logic of history. We should be grateful to the author for choosing a subject which is not attractive and popular but which at the same time required patient research in the interest of history.

We had a very unsatisfactory picture of the exile at Bithur. There was the temptation to think of this man of forty-three, still in the vigour of his manhood, eating out his heart in exile. We were almost inclined to believe vague rumours of his intrigues with Lahore and Katmandu Durbars. But the author has definitely proved that though some intrigues were

carried on in the ex-Peshwa's name 'by the persons about him', Baji Rao II lacked initiative even in conspiracies.

At Bithur, Baji Rao II did not cling to unreal hopes as fallen monarchs do. At the same time we feel that it was not a calm and dignified repose. Malcolm had made generous provision for the fallen monarch, but nobody could think that he would live so long. The author quotes Kaye's statement that the longevity of Baji Rao II was spoken of as one of Malcolm's offences. The comments of the *Delhi Gazette*, quoted by the author, very fully illustrates this impatience, official as also non-official European. It was said that 'the sum paid to Baji Rao would have constructed a Ganges canal or made a railway from Calcutta to Delhi'. It was even suggested, 'When royalty in Europe abdicates or is deposed it lives on alms'. In view of this attitude it was only natural that Nana Saheb, his adopted son, was refused a pension. But it must not be overlooked that the generous provision made by Malcolm helped more than any other thing to make the ex-Peshwa forget his former state and sink gradually into oblivion. At Bithur, Baji Rao decided disputes among the Marathas, performed religious ceremonies, fed the Brahmins, at times visited places of religious interest, and constructed buildings and decorated them lavishly. The sorrow of the exile's life was relieved by five fresh arrivals in his seraglio. He had married six times beforehand. But all his life's partners of the days of his greatness were dead by 1830.

This life of a British pensioner in a backwater, caused the British very little anxiety. The generous provision made by Malcolm enabled the ex-Peshwa to live in an atmosphere of luxury and idleness. We are perhaps justified in thinking that a more generous treatment of his adopted son might have prevented the Mutiny at Cawnpore from being such a terrible affair as it developed to be under his leadership. It is relevant to note, as the author points out, that the Acting Commissioner who supported Nana Saheb's pension claim described him in 1851 as 'a quiet, unobtrusive young man, not at all addicted to any extravagant habits'.

It is a pity, as the author says, that Baji Rao's palace was destroyed in the Mutiny. As original Marathi sources are so few the author had to rely almost entirely on British official records. But he has given us an excellent study whose interest is biographical as also historical. The Publishers have done their work well.

N. K. SINHA.

LECTURES ON PATAÑJALI'S MAHĀBHĀṢYA, VOL. I. By VIDYĀRATNA P. S. SUBRAHMANYA SASTRI, M.A., Ph.D. Annamalai-nagar, 1944. Royal 8vo. Pp. lxxv, 306. Price Rs.4.

The volume under review contains English translation and short notes on the first three Āhnikas of the Mahābhāṣya. In the Preface the author discusses various topics connected with the three seers of Sanskrit Grammar—Pāṇini, Kātyāyana and Patañjali. The author understands his subject and his notes and translations are quite good so far as they go. The Preface, however, though giving a lot of information about Pāṇini and his followers, is not up-to-date and it is not possible to accept all the statements contained in it.

On page xiii we read: The word पश्यति makes us infer that Patañjali considered him a ṛṣi. The passage referred to occurs in the *Bhāṣya* on जनसनखनां सम्प्रलौः vi. 4. 42 and runs thus: पश्यति त्वाचार्यो भवतीह

विप्रतिषेधस्ततो हल्यग्रहणं करोति। We are all familiar with such suggested senses in the writings of Rāghavabhaṭṭa and other commentators but can hardly accept them as proper inferences in the domain of historical research.

On page lii we find: 'His (Patañjali's) knowledge of architecture is seen from the following:

कृतश्मश्रुश्च पुनः श्मश्रूणि कारयति (M.B. under VI-1-127).'

In the Mahābhāṣya on इकोऽसवर्गे शाकल्यस्य ऋक्च vi. 1. 127: we find न हि सुक्तवान् पुनर्मुङ्क्ते न च कृतश्मश्रुः पुनः श्मश्रूणि कारयति। ननु च पुनः प्रवृत्तिरपि दृष्टा। सुक्तवानपि पुनर्मुङ्क्ते कृतश्मश्रुश्च पुनः श्मश्रूणि कारयति। सामर्थ्यात् तच्च पुनः प्रवृत्तिर्भवति। भोजनविशेषाच्छिल्पिविशेषाद्वा।

It is clear from the above passage that कृतश्मश्रुः means 'one who has already shaved' and शिल्पिविशेष refers to 'a barber who is an artist' and not to an architect.

On page xxxii we read: 'Pāṇini is the author of *Pātālaviṣayam* or *Jāmbavatīviṣayam* also'. This statement must be taken with more than the proverbial grain of salt. The question has been threshed out in *Calcutta Oriental Journal*, Vol. I, No. 1.

Coming now to the Paspasāhnikā, the very first words of the Mahābhāṣya अथ शब्दानुशासनम् have been the subject of much dispute. The exact meaning of the particle *atha* and of the compound *śabdānuśāsanam* have been discussed at great length by annotators and commentators and even poets and poetasters have aspired to give us the sense of the entire expression. One poet writes:

गुर्वन्तिके क्रिया पूर्वं संज्ञयार्थावबोधनम् ।
करोति पत्युर्दुवतिरथ शब्दानुशासनम् ॥

In the presence of the elders the (bashful) young bride instructs her husband in love by means of gestures, then (after the elders have moved away) she conveys her instructions in words.

The following stanza from the Mahābhārata (Śāntiparvan, ccxxix, 76) will be read with interest in this connexion:

श्वश्रूश्चरयोरये वधूः प्रेक्ष्यानशासत ।
अन्वशासच्च भर्तारं समाह्वायाभिजल्पति ॥

The daughter-in-law storms at her servants in the presence of her father-in-law and mother-in-law. And she instructs her husband, sends for him and talks to him (in their presence).

This is all very interesting but we are not concerned with it just at present. What is a matter of moment to us now is the authorship of the words—अथ शब्दानुशासनम्. According to several ancient writers this is the very first rule of Pāṇini's Aṣṭādhyāyī. Thus Medhātithi says in his Bhāṣya on Manu i. 1: पौरोषेयेष्वपि ग्रन्थेषु नैव सर्वेषु प्रयोजनाभिधानमाद्रियते। तथाहि भगवान् पाणिनिरनुक्तैव प्रयोजनम् अथ शब्दानुशासनम् इति सूत्रसन्दर्भमारभते, i.e., even in human compositions (the canon regarding) the mention of the object and aim (of the particular treatise) is not observed in all cases; thus

the reverend Pāṇini begins his series of rules अथ शब्दानुशासनम्, etc. without so much as a mention of the object (of the study). It is clear from this statement of Medhātithi that he regards अथ शब्दानुशासनम् as the first rule of the Aṣṭādhyāyī.

Patañjali, however, while apologizing for Pāṇini's use of the word वृद्धि in his rule वृद्धिरादैच् says that the word has been used at the very beginning for the sake of auspiciousness: कथं वृद्धिरादैजिति ? एतदेकमाचार्यस्य मङ्गलार्थं मध्यताम् । माङ्गलिक एवाचार्यो महतः शास्त्रौघस्य मङ्गलार्थं वृद्धिशब्दमादितः प्रयुङ्क्ते । (ed. Kielhorn, Vol. I, p. 40). Thus according to Patañjali, वृद्धिरादैच् is the first rule of the Aṣṭādhyāyī. According to Bhartṛhari, Kaiyaṭa and others also अथ शब्दानुशासनम् is the first sentence of Patañjali. Thus Kaiyaṭa who follows Bhartṛhari says: भाष्यकारो विवरणकारत्वाद् व्याकरणस्य साक्षात् प्रयोजनमाह—अथ शब्दानुशासनमिति ।

This difference of opinion on the authorship of अथ शब्दानुशासनम् does not appear to us hard to reconcile. It is well-known that ancient sūtra treatises generally begin with अथ and it is just possible that the first rule in all or most ancient works on grammar was अथ शब्दानुशासनम् and since it was so common it was not felt as the first rule. (Readers of Edgar Wallace will appreciate this point.) It was looked upon as a name of these works. This is why Patañjali refers to वृद्धिरादैच् as the first rule.

On page 33 we find चत्वारि षट्काणि चत्वारि पदजातानि नामाख्यातोपसर्गनिपाताश्च । This is the reading in all the printed editions of the Mahābhāṣya that we have come across and Kielhorn does not note any variant. But since नामाख्यातोपसर्गनिपाताः is a compound च at the end is clearly superfluous. The expression is evidently borrowed from the Nirukta (इतौमानि चत्वारि पदजातान्यनुक्रान्तानि नामाख्याते चोपसर्गनिपाताश्च । i. 12) and the correct reading would therefore appear to be नामाख्याते चोपसर्गनिपाताश्च ।

On page 78 अविजानत एतदेवं भवति । सूत्रत एव हि शब्दान् प्रतिपद्यन्ते । आतश्च सूत्रत एव । यो ह्युसूत्रं कथयेन्नादो गृह्येत is translated : 'This is with the dullard; for words are learnt only from sūtras. If, on the other hand, one deviates from sūtra, the sound alone and not the substance, will be taken into account' with the foot-note that 'नादः may mean Sound or not this'.

The expression आतश्च सूत्रत एव has been left out in the translation. And though Kaiyaṭa assigns both senses to nādaḥ it is clear that it can mean only 'not it' here. No doubt the sentence is irregular but such irregularity is not uncommon in Sanskrit. Thus under i. 2. 64. 29 we find in the Mahābhāṣya: यो हि गामश्च इति ब्रूयादश्वं वा गौरिति न जातुचित् सम्प्रत्ययः स्यात्. Similarly we find in the Manusamhitā:

यश्चैतान् प्राप्नुयात् सर्वान् यश्चैतान् केवलांस्तथजेत् ।

प्रापणात् सर्वकामाणां परित्यागो विशिष्यते ॥ ii. 95.

The annotator does not discuss the gender of शक्यम् in शक्यत्वात्नेन श्रमांसादिभिरपि क्षुत् प्रतिहन्तुम् (p. 60) nor has he anything to say on the exposition of घर्मनियमः as घर्माय नियमः (p. 58). These are two very interesting points of grammar and it is only pressure on space that prevents us from discussing them.

KSHITISH CHANDRA CHATTERJEE.

Fish Farms : Objectives and Requirements.¹

By SUNDER LAL HORA, D.Sc. (Punjab et Edinburgh), F.R.S.E., F.Z.S.,
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INTRODUCTION.

With the increasing interest that is being taken by the Provincial and State Governments in India in the development of tank fisheries, there seems to be an earnest desire on the part of the authorities concerned to educate the fish farmer in modern methods of pisciculture. There is a wide variety of ways of persuading the farming community to adopt new and more up-to-date methods, and one of these is by the establishment of a demonstration farm as distinguished from the experimental or research farm where the farmer, the politician and the public alike, could study the economics as well as the science of farming.

¹ A number of draft copies of this note were prepared for raising a discussion at the Officers Conference of the Directorate of Fisheries, Bengal, and some were circulated among fellow-workers likely to be interested in the subject for suggestions and criticism.

I have received a number of suggestions which are now incorporated either in the form of footnotes or have been utilized in amending the text. My grateful thanks are due to all those who have favoured me with their helpful suggestions.

Major G. Williamson, Animal Husbandry Commissioner with the Government of India, has remarked as follows:—

'I consider that the note should be given the widest publicity. The criticisms made of other provinces are not objectionable and should not be objected to. Such a note will be read by livestock-men with interest. The principles illustrated are as applicable to their work as to that of the fish farmer, but unfortunately what can be so quickly demonstrated in the case of fish may need years when dealing with other kinds of livestock except poultry and bees.'

OBJECTIVES AND CLASSIFICATION OF FARMS.

According to Mr. L. K. Elmhirst, in one country after another Government owned and operated farms designed to 'show the farmer' failed as a means of getting over new ideas to the farmer, for two main reasons. When crops or stock failed, the Government could cover up the failure and never show a true balance sheet, or it could find an alibi by saying that the farm was carrying out an experiment. If there was a success, the farmer could say, 'yes but with your unlimited capital and the money you waste and don't account for, we could do much better'. It is, therefore, a fact, however unpleasant it may seem, that every Government demonstration farm has always been suspected by the farmer.¹

The above remarks do not apply to the experimental farm, the research plot and the farm for training students at institutes; these remain to perform specific functions, but not to show the farmer how to run his farm as a business unit of productive and economic enterprise.

NEW METHODS OF DEMONSTRATION.

According to Mr. Elmhirst, 'Demonstration as such is now being carried out, in Britain, Canada, America and New Zealand, mainly on the farm of the best farmer in any given area and through the close collaboration of such a man with the Government agricultural staff. Such a farmer is generally guaranteed against loss, if the demonstration puts him to extra expense or shows a lower return than if he had unfettered control of his land and had been able to farm it in his own way.'²

This system has now been extended to collective and co-operative farming under 'master farmers' as they are called in the U.S.A. This is an excellent way of encouraging the growth of leadership and responsibility in rural areas. As for the collective system, Sir Pheroze M. Kharegat, in one of his letters, dated the 24th September, 1945, wrote that 'opinions

¹ On this point Sir Pheroze M. Kharegat, Secretary to the Government of India, Agriculture Department, has written to say that 'I do not share your views about farms run by Government. Their organization and programme are often faulty, but properly run they can be of great value. They would set the standard to which owners of other farms would try to approximate. In any case I am not prepared to admit that Government cannot run a group of small farms on a proper commercial basis. It is simply a matter of organization'.

Dr. James Hornell, late Director of Fisheries, Madras, on the other hand has remarked:

'I am particularly pleased with the emphasis placed upon encouragement by various means of private and individual initiative as against the incursion of the State into the commercial exploitation of *this* industry, especially whilst it is in its infancy.

There are several cogent reasons for this, culled from my own experience. The principle of these is that Government control, if direct, is bound to be deficient in the stimulus of personal profit on which private enterprise is based. The private owner devotes his time and resources ungrudgingly to his enterprise in the firm belief that these will recompense him handsomely in the end; on the other hand if Government servants are entrusted with the management of the business, they will usually work rigidly to their time-table of working hours; so long as they are able to cover up any loss or set back by some plausible excuse or reasoning, no disciplinary action can be taken against them—the private owner has the advantage that an idle or inefficient assistant may be dismissed immediately.'

² Dr. H. Thompson, Chief of Division of Fisheries, Commonwealth of Australia, has written to say that—

'I believe you are right in pointing out the advantages of demonstrating methods on the spot rather than in Government owned and operated farms. We here also employ the method of guaranteeing selected fishermen against loss when we use them or their gear to try out new methods of fishery.'

will differ and success or failure depends largely on personal factor. If the collection contains one good man who is respected by all, the system works, though there is always a tendency for all to feel that what is every body's business is nobody's business. Normally the latter principle operates so strongly that the venture fails. This aspect of the matter has to be borne in mind. The way out of it is that while ownership may be joint as proposed, the actual management should be entrusted to one individual'.

Another way to demonstrate to the farmer new and up-to-date methods is to induce boys and girls from 11 to 18 years of age to carry out on their parent's farm, and by permission of their parents, a variety of enterprises under the close supervision of an expert. Mr. Elmhirst states that 'this has often proved in peace time the most rapid method of changing the attitude of adult farmers and their wives. They are proud of what their children achieve, but very often find that the achievement is decidedly in advance of their own practice'. Dr. Albert W. Herre (University of California, U.S.A.) has suggested that 'the organization of "4 clubs" among farm boys and girls in the United States be investigated. These clubs have been highly successful and have worked great improvements in the manner indicated in your quotation from Mr. Elmhirst'.

FISH FARMS IN THE PUNJAB AND MADRAS.

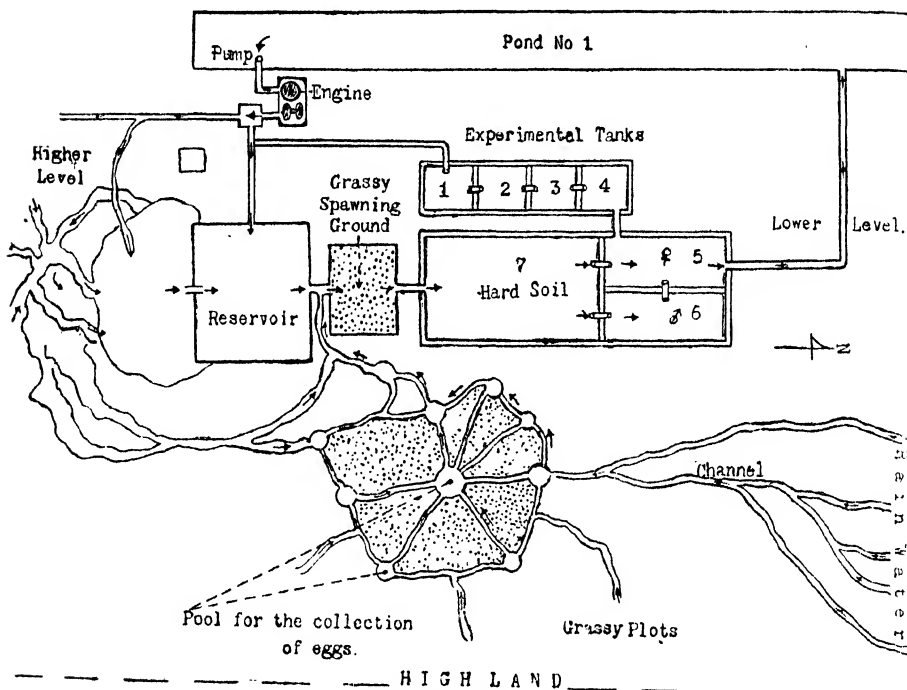
In the light of the above observations, we may now discuss the nature of the Government fish farms in India. So far as I am aware, there are Government fish farms over a generation old in the Punjab and Madras, while Bengal only recently established a small fish farm about seven miles away from Calcutta for the use of the trainees under the Government of India Inland Fisheries Training Scheme. The U.P. Government are actively planning the establishment of a fish farm and there is no doubt that several other provinces and States must also be thinking along the same lines.

In January 1944, I visited the Punjab Government fish farms at Khori, Chhenawan, Lyallpur, Batala and Madhopur and in September 1945, the famous Madras fish farms at Sunkesula and Chetput. The Punjab fish farms comprise only stocking tanks, though at Khori there are natural shallow depressions from which fry are collected after the floods for stocking purposes. The scientific data accumulated at these farms are of very high order, though unfortunately they have not yet been fully collated and codified so as to be of use in improving fish cultural practices. Further, they represent only fattening ponds and in the absence of hatchery pits, nurseries and rearing tanks they cannot be utilized even for instructional purposes. The possibilities of the Chhenawan Farm (Text-fig. 1) are immense and with the training received by the fishery officers of the Punjab in Bengal during 1945, it is hoped that this farm will be fully improved for the spawning of carps, so as to ensure a regular supply of fish-seed for the province. Hatchery pits, nurseries and rearing tanks will have to be constructed to feed the extensive stocking tanks with young fish for fattening and marketing. Under a private enterprise, this farm could be successfully run as a business unit of a productive and economic demonstration farm.¹

¹ Dr. Hamid Khan, Warden of Fisheries, Punjab, has informed me that since my visit to the Punjab a number of new fish farms have been added and the old ones have been considerably improved.

'(1) Fry rearing ponds have been added to Batala and "Pabban" has been taken to serve as a spawning ground for the fish. This farm can now be utilized for instructional purposes.

The Sunkesula Farm (Plate 1) in Kurnool District, Madras, is an ideal fish farm for carrying out experiments, planning out research and training of students. It is well constructed and ideally situated from the standpoint of drainage of various tanks. There are fairly extensive low tanks which could be leased out to a private party to be run as a business unit of productive and economic enterprise. The whole value of the farm is vitiated by the fact that it is placed under the charge of an Assistant Inspector of



TEXT-FIG. 1. Sketch of Chhenawan Fish Farm, Punjab.

Fisheries who is usually an undergraduate and is not capable of carrying out experiments and conducting research. The Inspection Book of the farm is full of brilliant entries containing work done by the scientific officers during their brief visits, but unfortunately even these valuable data have remained buried in the Inspection Book. I hope someone will soon codify them and

(2) Thirty fish farms have been established in Lahore and in districts adjoining it, namely Sheikhpura, Amritsar, Gujranwala, Gurdaspur and Ferozepur. These are being stocked by the Department. The famous Hiran Minar Tank in Sheikhpura is one of these farms. Most of these farms are *Kacha* ponds which did not in the past produce any fish crop. These have been taken on five years' lease by the Department to develop them on scientific lines and then hand them over to their owners to continue the work.

(3) Chhenawan Farm has been much improved. Nursery pits and fry rearing ponds have been made in addition to fattening ponds. It is now a complete farm, having all the necessary requirements of an ideal farm.

(4) Private owners of ponds have been supplied with carp fry to stock their ponds. One of them, the Manager, Amritsar Distillery Co., Khana, reported that he took out 5 lb. *Catla* in October 1945 from the fingerlings stocked in March 1945.

In the Punjab, private fish farms cannot be established unless the Department demonstrates to the private owners the profitable aspect of the enterprise.

make them available to fishery science. The Chetput Farm is also extensive, well situated and capable of commercial development. In Madras, several new fish farms are under construction and efforts are being made for provincializing tanks everywhere to serve as demonstration units. As pointed out above, such demonstration units run by Government are not likely to educate the farmer in fish cultural practices and, as in the past and in all other countries, may not fulfil the objectives in view.

BENGAL FISH FARMS.

From the very inception of the Department of Fisheries in May 1942, the fish farmer has been helped and guided by technical advice, and by the supply of fish seedlings *gratis* or at a subsidized rate to raise a better or a new crop in his own farm. No attempt has been made, in spite of heavy pressure at times even from Government, to 'provincialize' tanks. The success thus achieved in persuading the farming community to adopt new and more up-to-date methods is something remarkable. It must be conceded that a fishery officer in Bengal has certain advantages over his colleagues in Madras and the Punjab. In Bengal the bulk of the public are fishery minded; tank culture, though in a crude way, is extensively practised and has been in vogue for centuries; there is a well-established fish fry trade, so that fish-seed and seedlings could be had in certain parts of the province, especially round about Calcutta, whenever desired. These are admittedly great advantages and in addition the present scarcity and high price of fish in Bengal has acted as a great stimulus for increased production of fish in tanks. However, it is my firm conviction that it would not have been possible to create the same amount of enthusiasm for the development of tanks as exists at present by setting up Government fish farms. It may be pertinent to give a few instances of the Department's activities in this direction.

Private Fish Farms.

Large Private Fish Farms.—The lessees of the Hanakhali (667 acres), Rajnagar (100 acres) and Churchuria (233 acres) fisheries in the Salt Lakes near Calcutta were given hints about improved fish cultural practices after conducting detailed investigations and small-scale experiments on these fisheries extending over months. They have now learnt to their great advantage the control measures for epidemics of fish mortality caused by the infestation of fishes by the Fish Louse (*Argulus*) and Myxosporidian parasites. Previously the stocking of these sewage-irrigated fisheries was done with young fish (*Chala*), which is expensive owing to the difficulty of transporting them alive from the nurseries to a distance of 10 to 12 miles. Attempts made by the lessees to rear their own fingerlings from 'spawn' had failed on account of the saline nature of the soil in this area, but under instructions of the Department the soil was corrected and lakhs of fry were cultured on the spot thus saving thousands of rupees usually spent in stocking the fishery with *Chala*. The Departmental Officers in the course of their investigations observed large quantities of Gastropods in these fisheries and considerable growth of vegetation and for their control suggested Duck Farming on the fisheries. This has proved a great success and large quantities of duck eggs and ducks are now marketed daily from this fishery. In sewage-irrigated fisheries, there is generally a rich growth of carp minnows and other varieties of wild fishes which breed in the fisheries. The owner was making no use of this natural crop. When it was suggested

to him that like the practice of de-weeding an agricultural crop, he could also improve the growth and yield of his carp crop by fishing out these small species, he got fine-meshed nets made and started the fishery of carp minnow which has yielded him a substantial additional income. Thus given a combination of an intelligent, earnest and industrious farmer, and an enthusiastic and sound technical man much progress can be achieved in a comparatively short time, as both have personal interests, the former in harvesting a larger crop and the latter in accumulating knowledge for the service of humanity.

Co-operative Society's Fish Farm.—Very close to Calcutta is a large fishery belonging to the Irrigation Department of the Government of Bengal. A part of it, approximately one thousand acres, is leased to Bidyadhari Spill Matsyajibi Samabaya Samity (Co-operative Society of Fishermen). When the Department of Fisheries was started in May 1942, it was lying fallow, for the old lease had expired and the terms of the new lease had not yet been agreed upon. When this question was settled, the stocking season was practically over, the Society had run into debt and the prospects of development did not seem bright. The advice of the Fisheries Department was sought and the Registrar, Co-operative Societies, invited the Director of Fisheries to be the Chairman of the Society. Though hampered in several ways by the usual official red-tapism, the fish farmers carried out the instructions of the technical officer as best as they could with the result that in 1944 about Rs.1,54,000 worth of fish were sold (leaving out of consideration leakages and free supplies) and after paying all arrears of rents and debts the Society has now a comfortable bank balance. Much further improvement could be done if this fishery had not belonged to Government and had been owned by a private individual and run by a public enterprise.

Head Clerk's Fish Farm.—Now I shall give one or two more intimate cases. My Stenographer and Tour Clerk caught the enthusiasm of fish farming and with my permission¹ started the Bagmari Ideal Fishery in collaboration with a practical fish farmer and took lease of the tanks inside the Bagmari Mohammedan Burial Ground. With constant advice, guidance and even financial help, in the very first year he made a tremendous success of it and has awakened so much enthusiasm and interest in Calcutta which it would have been impossible for a thousand and one Government Demonstration Farms to create. His farm was visited by His Excellency the Governor of Bengal, the Hon'ble the Chief Minister of Bengal and by several high officials of Government and all of them can bear testimony to the fact that private enterprise by close collaboration and co-operation with the technical personnel of the Government could achieve wonderful success. An illustrated account of this fishery has recently appeared in *Phoenix* (September 29, 1945) under the very apt title 'Lakes of Rupees'. The opening paragraph of the article is worth quoting because it shows the impression created by the possibilities of tank culture in India on a foreign military officer.

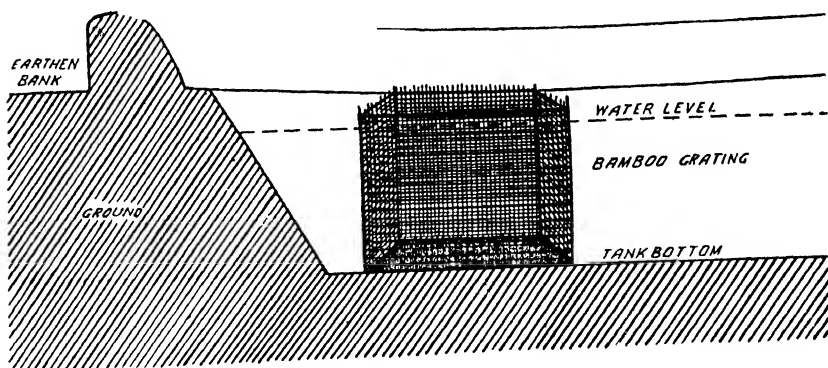
'Here's a way of making money ideally suited to India. You find a hole. You let the rain fill it with water. You buy some little fish for a small sum. You put them in the water and let them grow. You sell the big fish at correspondingly large price. Your lakes of fish become lakes of rupees.'

¹ The Government of Bengal have since permitted him to carry on the business of fish culture so long as it does not interfere with his official duties.

Though the fundamental conception is correct, fish culture is not so simple as depicted in the above quotation. You do not let the fish grow but through up-to-date cultural practices make them grow, and therein lies the need of technical advice, for each tank has an individuality and must be corrected accordingly to yield the best results.

During His Excellency's visit to this fishery, when he saw the fish leap madly, as the net closed in on them, he asked me if this was a Government Fish Farm. I informed His Excellency that this was one of the 50 private fish farms to which the Department acted as technical advisers. It was further explained that owing to inherent defects, as noted above, Government Demonstration Farms could not be run successfully and did not create any enthusiasm whereas money earned by a private individual served as the best publicity and propaganda for the Department. To this His Excellency agreed and gave his blessings for the encouragement of private enterprise.

School Boys' Farm at Sriniketan.—After my lectures at Sriniketan on Fish Farming in March-April 1945, the boys of the Village Welfare School, all under 14 years of age, expressed a desire to carry out my suggestions in a practical way and asked their enthusiastic teacher to get a tank attached to the school, just as there is a small agricultural plot and some cattle. The Visva-Bharati gladly gave the boys a tank which they collectively cleaned and fertilized. Attempts have also been made to eradicate predatory fishes from it and licences are given on payment to anglers. During my next visit in August 1945, the boys were eager to show me their tank, explain what they have been doing and ask for suggestions for the future.



TEXT-FIG. 2. Bengal practice of putting up manure pits in fishery tanks.

Either a corner of a tank is partitioned off with split-bamboo grating or a pit made with the same material.

Organic manure is never scattered all over the tank.

The boys had put up a board on a tree showing their proprietary right of the tank, had set up manure pits¹ and cleaned the sides of rank vegetation.

¹ The common and cheap manures to be used in tanks per *bigha* area (one acre = three *bighas*) are dry cowdung (2 baskets), stable refuse and poultry manure (two baskets), oil cakes (10 seers), green grass bundles (2 maunds), etc. As each pond has an individuality it is difficult to suggest a standard quantity of material applicable to all cases. The turbidity due to the growth of plankton should be such that visibility is nil at a depth of 10 to 12 inches. The application of manures must be repeated when the water becomes clearer than desired. For this reason, manure pits are made in the tank itself.

In tanks used for drinking water, organic manures cannot be used, but they can be fertilized with chemical manures as per details on p. 109 footnote.

They now wanted 1,000 young fish to be stocked in the tank and asked me to supply this quantity *gratis* to them from the Departmental Nursery Unit at Sriniketan. As the Scheme, to which I shall refer later, did not provide for a free supply of fry, but at a subsidized rate, I gave the boys a personal gift of 1,000 young fish of 4 to 6 inches in size by paying Rs.10 to the Fishery Overseer as the cost of the same. I then made a personal appeal to the boys not to slacken their effort in fertilizing the pond and looking after the fish. In October, the previous year's fish had grown to 4 to 5 seers each and this year's fish to over a seer each (one seer = 2 lb.). In connection with a feast, the boys sold half-a-dozen older fish and joyfully paraded their catch, as fish over 2 seers had never been taken out of that pond before. The association of fertilizing the pond and rapid growth of fish has thus become a firm belief and conviction not only with the boys but with the public in this area. Owing to Pujas, the boys had gone home but only after making an arrangement with one or two senior boys to look after the tank and the fish during their absence. The happiest news that I received from the teacher on this occasion was that the boys were determined to put up manure pits and carry out fish cultural practices in their home tanks during the holidays. The boys have now a fund of their own with a credit of over Rs.100 and fish worth about Rs.1,000 and I feel that I never made such a good use of my Ten Rupees as I did on this occasion. In Bengal, where every primary school has a tank attached to it, the value of this experiment and possibilities of tank development through such instructions seem to be immense.¹

Collective Fish Farming at Laldaha.—Mr. L. K. Elmhirst was greatly impressed with the possibilities of tank development in the villages of Bengal and concurred with the writer in regarding it as the most important

¹ The latest position about this experiment is thus stated by the teacher in his letter of the 12th February, 1946:—

'Our boys went home and tried to convince the villagers about scientific pisciculture. They approached all the owners of the tanks and gave publicity of the new methods they learned. The success is to be gradual. I shall mention the case of an ex-student who achieved a great success. Sja. K. D. Ghosh has a tank in Jadavpur. He wanted to plough the bottom of the tank. People said "Don't do this, for Heaven's sake, Goddess Kali will destroy the family". K. G. could not get a single man to plough the tank. All refused. At last he himself took the plough in his hand and finished the job. His tank contains fish which have grown well and is a wonder for the villagers who have remarked that K. G. is saved from divine wrath and is a fish-grower.

During the Sriniketan Mela we caught the following fish from our fish farm:—

<i>KATLA</i> —(6)	<i>ROHU</i> —(4)	<i>MIRIK</i> —(6)
Weight varying from 3 srs.-3½ srs.	Weight 1 sr.-1½ srs.	Weight 3 poa-1 sr.

Let me tell you that the *Mirik* and *Rohu* are of this year's fry presented by you. The *Katlas* were only 14 chataks in May when we took charge of the tank. The growth is marvellous.

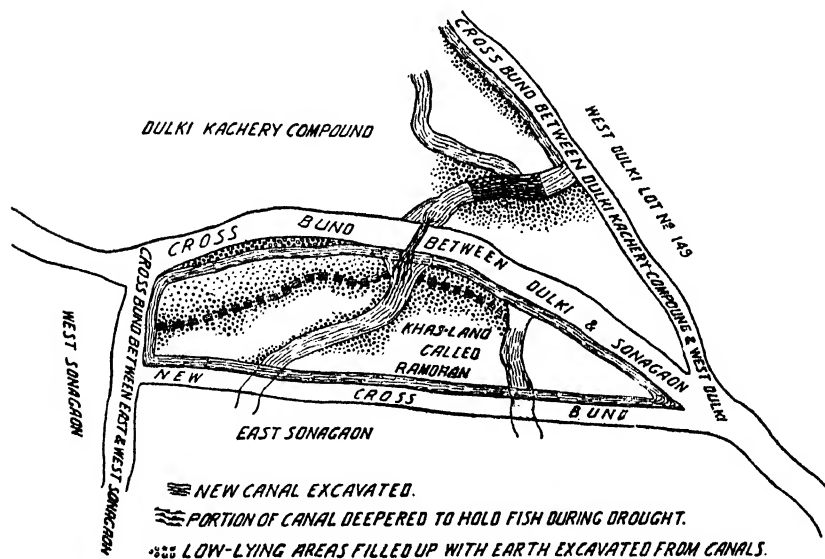
The tank is full of *Katlas*, *Rohus* and *Mirik* which have developed nicely in the manured water.

Boys are taking great interest in it. On Mela Day they made a procession. One walked bearing a placard "S. Satra Stocking Tank", others followed him carrying the catch. In Mela ground all eyes were turned upon them and they sold their property with pride.

We have so far caught many big fishes. The smaller ones are let alone. Do you think we should catch one and one and a half seer fishes also to avoid overcrowding? Or should we let them grow during the coming monsoon? In that case we could have a tank with hundreds of 4-seer type fish. Please advise.

Our Primary Teachers' Training course is opening and I propose to train them in pisciculture. They are adults with influence in villages. I hope you would help me in this matter.'

measure for the amelioration of the rural population. In his visit to Laldaha, a village under the Rural Welfare Scheme of the Visva-Bharati, he instructed the school children to make a survey of all the tanks of the village, about 96 in number, and to classify them into four categories according to the possibilities of fish culture in them. The classification was based on the amount of water retained in them throughout the year (perennial, long-seasonal, short-seasonal and occasional), for it was thought that a tank which dried up for a part of the year was not of much use for fish culture. When the classification was ready, Mr. Elmhirst took me to the village to comment on what had been done and to instruct the villagers in fish cultural practices. It was a surprise for the villagers when they were told that even an occasional pond played an important part in fish culture by serving as a nursery and, therefore, advice was given that a set of nursery, rearing and stocking tanks should be selected and a Village Society formed to work them collectively. Members of the Society collected enough money for day to day expenses and the Bengal Government made a grant of Rs.500 towards the purchase of capital goods, such as nets, *hurra* and other fishing implements. The Society was started in May-June 1945, prepared nurseries, rearing and stocking tanks and, in October, I planted some fish from the nursery into the stocking tank. The progress is encouraging and the village has an up-to-date fish farm, graded into sections for fish cultural practices. Most of these tanks were hitherto considered unproductive.



TEXT-FIG. 3. Ramdhan and Dulki Plots at Gosaba, 24-Parganas.

Paddy-cum-fish culture through reclamation of low-lying areas. The owner spent about Rs.200 in digging canals and making embankment and reclaiming low-lying portions. In the very first year, he realized the amount spent through the sale of increased yield of paddy and considerable quantity of fish crop was a clear profit.

Paddy-cum-Fish Culture Demonstration Farms.—Under the 'Grow More Food' campaign, it was suggested that culture of carp in suitably embanked paddy fields of the Sundarbans Abad areas should be undertaken on the same lines as is done in Japan and China. At first experiments were conducted at the Agricultural Farm, Gosaba, 24-Parganas. As the results obtained were satisfactory, both as regards increased production

of paddy and the culture of fish, a scheme was formulated under which farmers were given fry *gratis* to undertake this new development measure in their own farms. This method of demonstration has proved successful and several farmers are now anxious to adopt this measure provided fish-seed can be made available to them. Accordingly, experiments have now been undertaken to set up fish-seed farms under this scheme which, owing to the saline nature of the soil, had not proved successful in previous years in the case of private enterprise.

One interesting feature of this new development measure that has proved most successful is the reclamation of low areas for paddy-cum-fish culture. A portion is dug, either in the middle or along the sides, for making embankments or fish ponds and the excess earth is used for filling up low ground to make it suitable for paddy cultivation. Thus the digging of fish tanks or canals and the filling up of low ground for paddy cultivation have now become a common feature in the 24-Parganas. Success achieved in introducing this new development measure on private farms is so great that the Port Canning Land and Improvement Company has placed a sum of Rs.5,000 at the disposal of the Director of Fisheries, Bengal, to show the beneficial effect of this scheme by carrying out experiments in the farms of their tenants.

In selecting the above instances, regard has been paid to bring out the wide variety of ways in which private enterprise has been fostered and encouraged to take to fish farming and to adopt new and more up-to-date methods. From the number of enquiries that are pouring in from all strata of society regarding the development of tank fisheries, it seems that the idea has taken root, but for its proper growth and fruition much more effort is still required. The cases in which we have helped individuals, or companies, in planning the development of their fisheries are numerous, but I shall now deal with fish farms set up by Government for specific purposes.

Bengal Government Fish Farms.

Belghuria Experimental Fish Farm.—When arrangements were under consideration for Inland Fisheries Training at Calcutta, it was suggested that such training will be imperfect without a Departmental Fish Farm. Accordingly 4 out of 34 tanks forming a series of railway excavations, of the Assam Tea and Fishery Company, Ltd. at Belghuria, were taken with the object of carrying out experiments to demonstrate fish cultural practices to the trainees and to improve the fishery of the Assam Tea and Fishery Company, Ltd.; thereby demonstrating to the public at large the value of applying up-to-date methods to fish cultural practices. This farm has been in existence for a few months only and the Superintendent-in-charge of the farm has carried out a number of experiments in correcting the tank bottom and water and making them suitable for fish culture. Fry were reared from 'Spawn' successfully, but since then the crop has become a failure, partly due to the position of the farm in somebody else's property, where the crop cannot be fully safeguarded, and partly due to the flooding of the farm. So the production side has been more or less a failure.

Muraripukur Demonstration Farm.—From the 1st of August, 1945, a jheel area of 8 *bighas* (one acre = three *bighas*) has been taken on lease from the Calcutta Improvement Trust for a period of one year, in the first instance, and stocked with 50,000 fry from the 1st of September, 1945. This farm has only nurseries and rearing tanks and it is intended to run it as an economic unit of commercial enterprise. This is a suitable area for training fishermen in the care, maintenance and management of nursery

tanks. Application has been made for the lease of the adjoining land and if a long-term lease is granted it is proposed to put up here a fishery training centre for fishermen to construct a proper 'Spawn' market and to demonstrate the utility of Duck and Cattle Farming in conjunction with the fishery. A Bureau of Fishery Information for this section of Calcutta will also be opened at this farm.

District Demonstration Fish Farms.—Government sanctioned fish farms for the districts of Tippera, Birbhum and Bankura in May 1945 and the District Fishery Officers of these districts were instructed to take on lease a suitable set of tanks, comprising nurseries, rearing and stocking tanks, in one compact area. Only at Tippera, a farm with scattered tanks has been started while in the other two districts no arrangement could be made to set up fish farms.

Extensive Fish Farms.—Under the Bengal Tanks Improvement Act, thousands of tanks have been improved by Government for irrigation purposes. Some of them, like the Hafizkhan Bundh at Hetampur in the Birbhum District, are stated to be 100 acres or over in extent. They can be used as stocking tanks and have to be worked like a *beel* or a lake. The usual practice of stocking such tanks with 'Spawn' or small fry is unscientific as the small helpless fish do not get favourable conditions for their growth and very often fall a prey to predatory fishes. It is necessary, therefore, to establish a large number of feeder tanks in which 'Spawn' can be reared to a fingerling stage and fry to a size of 9 to 12 inches before planting them for further fattening in the main tanks. There are two such Government Fish Farms being worked on an economic and productive basis in the district of Birbhum, one round Lalbundh near Santiniketan and other round Hafizkhan Bundh at Hetampur. The magnitude of the work will be understood when it is realized that even Lalbundh of 35 acres area will have to be stocked with about 2 to 3 lakhs of young fish of 9 to 12 inches. As it will not be possible to fertilize such large areas with organic manures, experiments will be carried out with chemical manures.¹ The layout of these bundhs is such that there is every chance of fish breeding in them, so the Fishery Officers have been entrusted with very important research problems also. These farms are too big to be managed by an individual, so the Government must show the way to develop such extensive pieces of waters. Once the process is standardized, it is expected that they will be leased out to private enterprise and other similar bundhs will also be developed in the same way.

Fish-seed Farms.—One of the greatest handicaps observed in the development of tank fisheries was the defective or deficient fish-seed supply in most of the rural areas. The Government, therefore, decided to open

¹ Chemical manures have not yet been used in India for fertilizing fish ponds, but according to the American practice the 'bloom' can most generally be produced by fertilizing at the rate of from 500 to 1,000 lb. of a standard fertilizer mixture per acre of water surface, depth being immaterial. The most satisfactory fertilizer now generally employed is known as the 6—8—4 mixture, representing the concentrations of Nitrogen, Phosphorus and Potassium respectively. The concentration is supplied by: 40 lb. Ammonium Sulphate (or nitrate); 60 lb. Superphosphate (16%); 5 lb. Potassium Chloride and 15 lb. Limestone (finely ground). It is of no value to add one fertilizer without balancing it with the other requirements, and it naturally serves no purpose to add materials already present in excess. It is, therefore, essential to have some idea of the type of water in the pond. In slightly acid water the 8—8—4 mixture is the best, but in hard waters the 12—5—5 mixture has shown better results. In general in alkaline waters more Nitrogen is required and less Phosphorus. The addition of Ammonium Nitrate is liable to cause some acidity of the water and it is necessary to add lime to counteract this effect.

fish-seed farms in 10 districts, *viz.*, Chittagong, Tippera, Dacca, Bakergunge, Khulna, 24-Parganas, Rajshahi, Birbhum, Bankura and Midnapore. Under this scheme, 25 Nursery Units were opened in these districts and the necessary additional staff and finance sanctioned for four months' working. The fry reared in these units have been sold at half the cost prices (*minus* the salaries of technical staff) which in most cases turned out to be one-fourth or one-fifth of the market price. The tanks in all cases belong to private parties and were given over to the Department either on lease, share basis or free. Under this scheme about 10 lakhs of young fish were sold to the public at a subsidized rate and even if the casualty is taken at 33%, nearly 6,66,000 seers or 16,700 maunds (one maund = eighty-two pounds approximately) of fish must have been the produce from departmental seed during the first year. In some districts, our nursery tanks are serving as rearing and stocking tanks and it is likely that by the end of the year we shall have about 350-400 maunds of departmental fish-produce for sale in the market. The working of this scheme over an extensive area and practically without much cost to Government has awakened considerable interest and has certainly shown the farmer the benefit of adopting new and up-to-date methods. It is Government's policy to put up similar Nursery Units in different villages year after year so that knowledge of fish cultural practices becomes widely diffused.

It must also be mentioned that with the exception of 24-Parganas and Rajshahi, the Government had provided Service Parties of four fishermen each to render free service in the cleaning and stocking of tanks to the would-be fish farmer. These parties have been of great help to the public.

REQUIREMENTS OF A FISH FARM.

In view of what has been stated above, it will be clear that one standard fish farm cannot serve all the various purposes. However, from the nature of their functions, departmental fish farms can either be used for experiments or for demonstration and teaching purposes. For this reason, I shall deal with the fundamental requirements of each type in the first instance and at the end give a list of the general requirements of an Ideal Fish Farm.

Experimental Fish Farm.—Attached to every fishery department or to an institution for teaching or research, there must be a small fish farm to try out new ideas and for development measures. Such a farm should be under the direct supervision of a highly qualified technical officer who should be in a position to direct and guide research, by paying occasional visits to the laboratory and the farm, so as to assess correctly the findings of the sub-ordinate officers and to chalk out further lines of research. When the Department of Fisheries, Bengal, was expanded towards the end of 1944 and a spacious building was found for housing it, I planned to have two small tanks, measuring $16' \times 9\frac{1}{2}' \times 7'$ each, constructed within the compound. About the same time, a plan was drawn up for the Belghuria Experimental Fish Farm about 7 miles distant from Calcutta. Though I was able to pay a few visits to Belghuria and to see the progress of work there from time to time, I could not possibly direct or guide all the experiments conducted there. Even this small farm is in charge of a Gazetted Officer, who had shown distinct inclination for experimentation and research, but I must say that every time I visited the farm I could, from general knowledge, suggest new meanings into his experimental data or new lines for further development. Unfortunately my advice, on most occasions, was available too late for the season and had to be held over for testing

during the next season. On the other hand, the two small tanks on the office premises have made it possible for the technological and the teaching staff of the Department to collaborate with me in carrying out experiments on transport and conditioning of fry, occasional epidemics of fish mortality in tanks and remedial measures to combat them and several other minor experiments in connection with the training of Government stipendiaries from various provinces and States. It is for similar reasons that large aquaria are often built in connection with experimental work and research at all fishery biological stations, both marine and fresh water.

The second fundamental requirement is that the Officer-in-charge of an experimental farm should be a technical officer of approved scientific ability and should have his posting for three years at least, so that he can fully apply his mind to the development problems and show some results. The results must be tabulated properly and submitted to the head of the Department every quarter so that he can judge their worth and prepare them for publication. In no case should valuable data, laboriously collected, be allowed to lie fallow for long, as has been the case in the Punjab and Madras. I must, therefore, emphasize strongly that findings and data should be made available as rapidly as possible. If there is no departmental journal or other avenue for frequent publication, results of experiments and other valuable work should be mimeographed and distributed as often as necessary.

An experimental farm should determine what species of Indian carps are best suited to pond culture in a given locality, for it is well known that closely related species may vary widely in rapidity of growth, maximum size, etc. Where these matters are not clearly and positively known, much time, effort, and pond space are wasted.

The optimum number of fish that can be reared in a given area should also be determined. It is not enough to rear one species in a pond. Several species may be grown in a pond without detriment to one another, provided each kind has its own physiological niche. A vegetable feeder, a plankton feeder, one eating crustacea and worms, and a molluscan feeder, can live in the same pond. Five or six kinds of carp may live together where each has its own food supply. A good deal of experimental work has been done along these lines in China and there is need for similar work in India.

The question of fertilizers, both organic and chemical; of artificial foods; of quantity and quality of aquatic vegetation; of general pond sanitation; etc. are problems that require detailed experimental study.

A small, but well-equipped laboratory for research in fresh water biology should be associated with the farm and it should be provided with various types of fishing implements of its own, for day to day work on the farm and for research.

Demonstration Fish Farms.—For demonstration, a central fish farm is generally of little use and in order to 'teach the farmer' one must take steps to show him, under a suitable guarantee, new methods on his own farm. From experience gained in running agricultural farms for over a generation, it has become abundantly clear that Government Demonstration Farms create very little interest to the actual farmer and, therefore, a new orientation in our methods of approach has become a necessity. Some of the lines which have proved useful in Bengal, in educating the fish farmer to adopt new methods, have been indicated above and it will be worth while to try them in other parts of the country.

Training Institute's Farm.—There is a distinct necessity that every institution imparting training in fisheries should have an experimental-cum-demonstration farm. The experimental section of the farm should

comprise series of small tanks suitably arranged for filling up and dewatering. There should be three or four identical tanks of each kind so that simultaneous experiments can be conducted with different foods or fertilizers or something else and their relative values judged. In all experiments, it is generally desirable to have a control tank. Large-sized aquaria, Pucca or Kuchha tanks may be constructed according to circumstances. The working of this section should be kept absolutely separate from that of the demonstration tanks which must be run on an economical basis, otherwise the demonstration will have no value. It will thus be desirable to have a register of each tank showing expenditure on it under preparation, manure, seed, labour, etc. and income from it by the sale or transfer of fish from it to another tank. Such registers would help to improve the production side of the farm tanks and will reveal many little known facts of great value for improved fish cultural practices.

The Sunkesula Farm (Plate 1) fulfils all these requirements though the pumping of water from the river adds to the expense, but it is a minor point. In the hands of a competent scientist and with a well-equipped laboratory, experiments from the breeding of Indian Carps to the marketing of fish could be carried on at the Sunkesula Farm. There are series of small nursery tanks, a number of rearing tanks, stocking tanks, breeding tanks and a marshy area so that all varieties of fish used for Pond Culture in India could be experimented upon and at the same time the farm could be made to support itself from its own production.

The Chhenawan Farm (Text-fig. 1) in the Punjab could also be converted into an ideal experimental-cum-demonstration farm. So far it has been used for carrying out spasmodic experiments without much planning and proper equipment, but the potentialities of its development are very great. Here again it will be necessary for a competent fishery scientist to stay on the spot and make it a whole-time job.

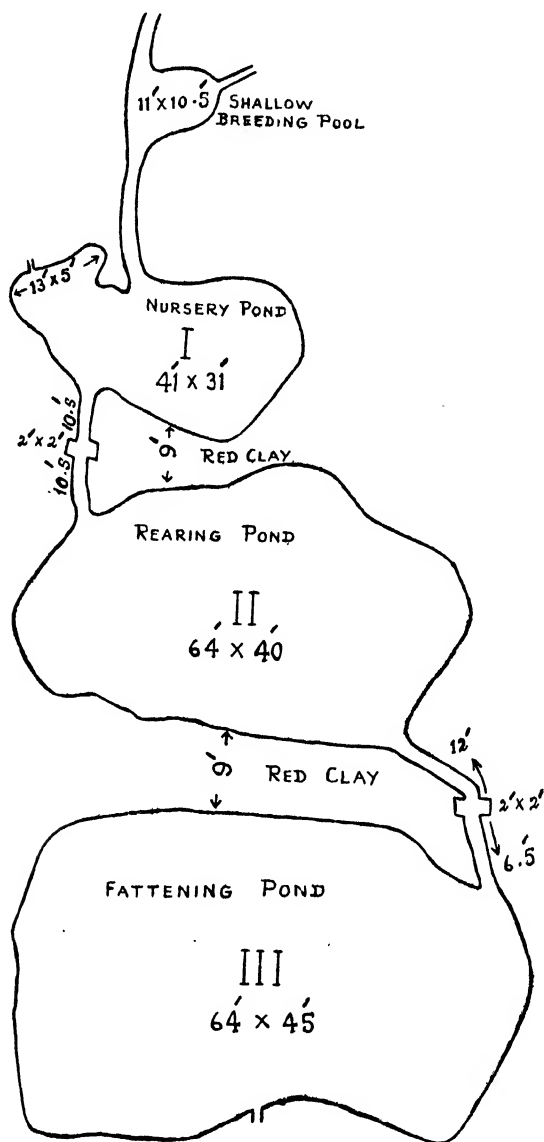
Experimental-cum-Teaching Farm.—In most cases a combination of experimental and teaching farms will be found more suitable, but one farm cannot meet the requirements of a State or a province. For instance, in Bengal a farm is needed in the Darjeeling Himalayas for the culture of hill-stream fishes. The conditions in Western Bengal are quite different from those in Eastern Bengal. Thus the minimum number of farms required in a province would depend on (i) the varieties of fish associations to be dealt with, and (ii) the types of climatic and soil conditions influencing the life of fishes to be cultured. If to these is also added the human factor, such as habits of people, types of fishing gear, etc. then it will be clear that a multiplicity of farms would be desirable for teaching and experimental purposes in every province or State.

Public Demonstration Farms.—In view of what is stated above, I do not think much good can result from Government Demonstration Farms. In India, we should gain by the experience of the West with regard to Agricultural Demonstration Farms and start, at least in the development of tank fisheries, by arranging demonstrations on private farms under a suitable Government guarantee.

An Ideal Production Farm.—In establishing a fish farm, the following points should be taken into consideration:—

(i) *Site*: The nature of the soil plays an important part in fish cultural practices, for instance, acid waters are less productive than alkaline waters. Moreover, a porous soil will always be troublesome as the tanks will not hold water for long unless there is a regular arrangement for feeding them. Further, the layout of the farm should be such that the tanks can be dewatered or fed at will. A hard, rocky soil will not be suitable for the

culture of carps of the plains as some of them suck mud from the bottom and feed on the nutrient matter contained in it.



TEXT-FIG. 4. KATLI [*Barbus (Lissochilus) hexagonolepis* McClelland]. Terraced Ponds at Rungli-Rungliqt, Darjeeling District, Eastern Himalayas.

The fish breed in the shallow area and can be fattened well in the series of tanks by keeping them according to size and supplying artificial food. KATLI is an omnivorous feeder.

The difference in level of water between Pond I and Pond II is 2½ feet and between this and Pond III 3 feet. This gives an easy gradient for the fish to ascend to the breeding pool. In the channels connecting the ponds, water runs 1½ feet deep.

Temperature on July 30th, 1943, was as follows: Breeding Pool = 65°F.; Nursery Pond = 68°F., Rearing Pond = 70°F., and Fattening Pond = 69°F.

Where there are several tanks in a farm, they should be contiguous so that water and fish can be run from one to another. In hilly regions, it is generally possible to have terraced ponds in which fish can be run from one to another, except that there can be no reversal after reaching the lowest. The tanks of a fish farm are best handled when they are really but subdivisions of a single large tank, separated from each other by dikes.

Certain fish farms have been established in India without these primary considerations with the result that the entire expenditure has been wasted and they are at present non-functional. It is desirable, therefore, that a proper survey of the soil, water sources, contour, etc. should be carried out before plans for the establishment of a farm are finally decided. One should go even to the extent of conducting a small-scale pilot experiment during the season to test the suitability of the soil. These preliminaries are worth while for the final attainment of success. I agree with Mr. Madhavan of the Madras Fisheries Department that in selecting a site for a fish farm it is most essential that detailed observations should be conducted during one or more complete years regarding seasonal variations of conditions at the site.

(ii) *Location* : The farm should be located in an area where there is either local demand or facilities exist for the marketing of the produce in a near or distant market. If there is a waterway available, live fish can be transported in bamboo crates to the market. As for instance, Sunkesula fish can be transported by the canal to Kurnool and sold there in a living condition.

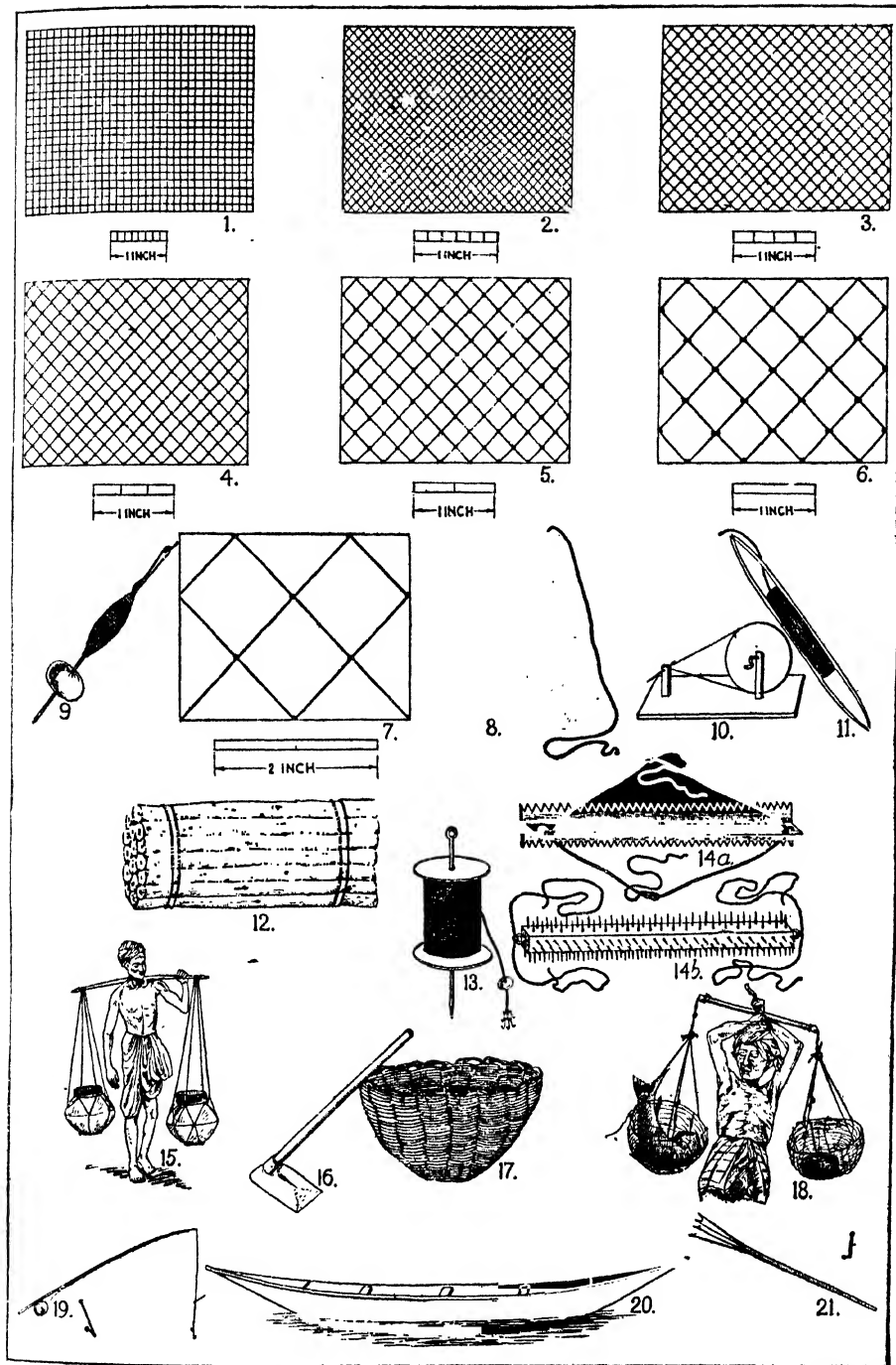
If a good road is available and trucks can be employed live fish can be transported in canvas tanks built inside the trucks. If this arrangement is not possible, ice can be used for preserving fish or, if the distance is short, fish can be taken out from a 'live well' in the farm in the early hours of the morning and rushed to the market and disposed off before they become stale.

Owing to lack of proper nutrition, there is at present great need for fish farms everywhere and the Government should specially subsidize farms in out-of-the-way places so that cheap prices induce people to take more fish.

(iii) *Nature of Tanks* : As the principal Indian Carps, such as *Catla*, *Rohi* and *Mrigal* used for cultural operations do not generally breed in tanks, there is no necessity for breeding tanks and hatchery pits everywhere. The culture starts with the larval forms which require well prepared, thoroughly manured, shallow nurseries. These are about 2 to 4 feet deep, so that for a part of the year they dry up. When the fish have attained 2 to 3 inches in length in about a month's time, they should be transferred to somewhat deeper tanks which may also dry up for a month or so in the year. Then there should be perennial tanks where fish can be stocked for fattening, but even these tanks should be dewatered every 5 to 10 years according to circumstances, either by gravitation, if possible, or by pumping out the water.

In a fish farm, the proportion of areas under nursery, rearing and stocking tanks should be approximately 1 : 4 : 8. In one *bigha* nursery area, there should be three to five tanks which will be sufficient to raise a crop of 3 to 5 lakhs of fry from 'spawn' in about 15 to 20 days. The fry should be kept in the rearing tanks for three to five months and then transferred to the stocking tanks.

(iv) *Availability of Fish-seed* : This is an important matter and should be looked into carefully. Arrangements should be made well in time to ensure the supply of the required quantity of fish-seed or fry as the case may be.



TEXT-FIG. 5. Fishing Implements required at a Fish Farm.

1. Chatjal, 2. Gujri, 3. Ghana Sareng, 4. Chhoto Sareng, 5. Sareng, 6. Doon, 7. Pari (Berjal), 8. Cast Net (Kheblajal), 9. Taku, 10. Charka, 11. Nali, 12. Sola-float, 13. Jhuppi, 14a. Harra (Heavy), 14b. Harra (Light), 15. Bhari with hundi, 16. Kodali (Spade), 17. Jhuri (Cane-basket), 18. Fish weighing balance, 19. Chhip and Borshi (rod and line), 20. Nouka (Boat), 21. Koch (Spear).

(v) *Agriculture-cum-Pisciculture*: If there are agricultural plots in the farms, they should be cultivated to produce green fodder for the fish. Washings from a cowshed by the side of the pond will be extremely beneficial for the fertilizing of the pond and the cost of manure will be reduced to the minimum. If ducks can be maintained, they will be helpful in checking growth of excess vegetation and in manuring the water with their excreta. In fact, a combined *Agriculture-cum-Animal Husbandry-cum-Fishery Farm* should be ideal for all practical purposes. It is, therefore, suggested that, so far as possible, the tanks and ponds inside the existing Agricultural Farms should be used for the culture of fish so as to show the farmer how he can make use of his neglected ponds.

(vi) *Miscellaneous Uses of Fish Farms*: If the soil is acidic or the water is not sufficiently alkaline for the growth of fauna and flora, encourage the use of stocking tank by washermen and bathers. This not only disturbs the fish and gives them exercise but helps to maintain the alkalinity of the water. Washing of kitchen utensils generally provides some food to the fish.

(vii) *Farm Implements* (Text-fig. 5): Fishing implements for cleaning bottom, such as *hurra*, baskets, ropes, etc.; nets of various types for catching fish or giving them exercise; a small boat to reach every part of the tank; fish crates; hundies; fry carriers, etc. should be provided.

(viii) *Manures and Artificial Foods*: Organic and chemical manures, lime and artificial foods should be kept in stock for fertilizing and correcting the pond and for feeding the fish.

(ix) *Fishermen*: Properly trained fishermen and honest watchers are most essential for the success of fish farming.

(x) *Fish Farmer*: Above all, there should be a keen farmer, endowed with knowledge, earnestness and industry, to carry out the various fish cultural practices and to take in time immediate corrective measures in case of unexpected happenings. It should be clearly understood that all the time living animals are being handled and, therefore, sanitation, constant vigilance over diseases, etc. are an essential part of fish cultural practices.

FISH FARM ENGINEERING PROBLEMS.

In a paper entitled 'Some of the preliminary requirements for starting a new fish farm' read before the Madras Branch of the Ecological Society of India on 27th September, 1945, Mr. E. K. Madhavan made the following remarks regarding the fish farm engineering problems:—

'Flood and drought are two of the great handicaps for fish farming. These could be circumvented by following the expert advice of a fisheries engineer. He has to plan out the most efficient and yet economical bundhs to guard the farm against unusual flood, by a due consideration of the maximum flood level of the adjacent rivers or tanks. The maintenance of adequate water level in seasonal fish ponds during periods of drought could be accomplished by evolving sanctuaries, wherever possible, in the deeper regions of the fish ponds to protect the fish during the summer. The nature of the soil for the bundhs would guide him in the amount of slope to be given to the bundh, etc. and whether any revetments or mere turfing would suffice as sufficient protection against erosion during the floods or rains. The need for adequate shade for the ponds during summer and the utility of aquatic vegetation is too well known to all of us; but it is most essential that the fisheries engineer should take these factors into consideration in laying out his plans.'

The Government of Madras are considering the employment of an Engineer in the Department of Fisheries for laying out fish farms and I

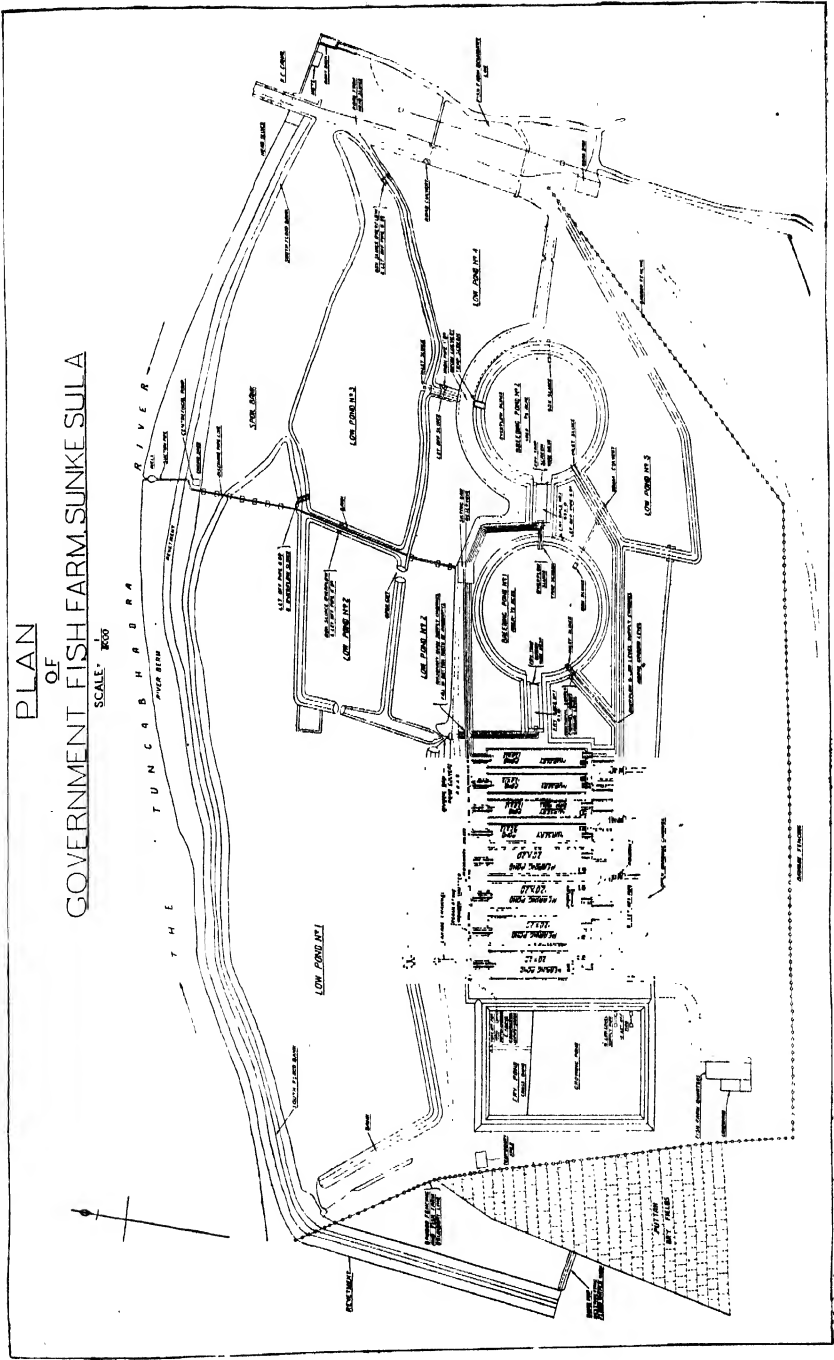
think it is a move in the right direction. How often in advising a private farmer, I have felt the need of an engineer. In planning large-scale development, I had often to seek the help of Calcutta Corporation Engineers and those of the Irrigation Department of Bengal. For stimulating pond culture on an extensive scale, it will be necessary to associate some engineering staff with fishery officers. Even for the repairs and maintenance of fish farms, fishery engineers will be more helpful than ordinary civil engineers.

COMMERCIAL FISH FARMS.

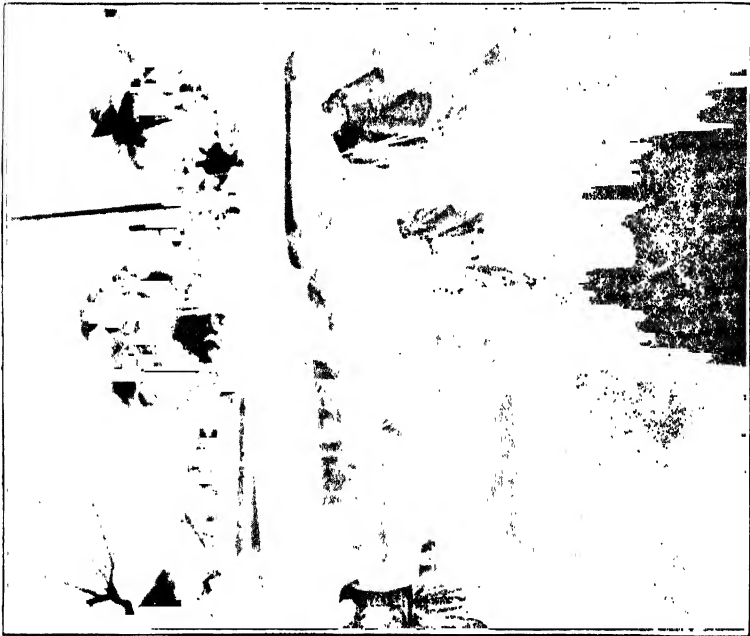
Though, generally speaking, pond culture must be encouraged in the same way under the 'Grow More Food' campaign as a kitchen garden in any household, there are in places extensive low areas in which fish can be farmed on a large commercial scale. Further, as indicated above, all the tanks in a village or a Union can be taken together and farmed collectively. I shall, therefore, consider here a definite and practical suggestion as to what should be done to produce, say, 1,000 tons of fish a year.

In ordinary fish ponds the average production is about 6 to 10 maunds per acre, but by the application of proper cultural methods it can be easily doubled or even trebled under suitable circumstances. In the U.S.A., by fertilizing the fish pond, production has been increased to half a ton per acre per annum. Though in sewage-irrigated fisheries in the neighbourhood of Calcutta, the production is higher, we may work on the basis of $\frac{1}{2}$ ton per acre per annum. Thus to produce 1,000 tons of fish, 2,000 acres will have to be put under fish farming. Of this area, at least 500 acres must comprise of long-seasonal tanks which dry up for a month or two in the year so as to serve as rearing tanks for the fry. After transferring the major portion of fry, thousands still remain in such tanks and fatten quickly if the tank is properly fertilized. Again 100 acres of these may be of short-seasonal or occasional tanks in which larval forms, loosely termed 'spawn', will have to be reared. If the farm happens to be in the neighbourhood of high land or the country is undulating then by the construction of Bundh-type of tanks (*Proc. Nat. Inst. Sci. India*, Vol. XI, No. 3, pp. 303-330, 1945), it may be possible to breed fish in the farm itself for ensuring the fish-seed supply but in most cases, the fish-seed will have to be obtained from rivers. Unfortunately in carp farming with Indian species, there is no arrangement at present to have 'pure' or 'improved' seed supply as is the case with agricultural crops. Thus for producing 1,000 tons of fish per year, one will need 100 acres under nurseries (occasional or short-seasonal tanks), 400 acres for rearing fry to 9" to 12" size and the remaining 1,500 acres under perennial tanks which should be dewatered and cleaned every five to ten years by rotation and for this an extra 500 acres may be allowed.

Some of the fish cultural practices are illustrated in Plates 2 to 4, while a detailed account of pond culture in Bengal will be published later.



Bengal Fish Cultural Practices.

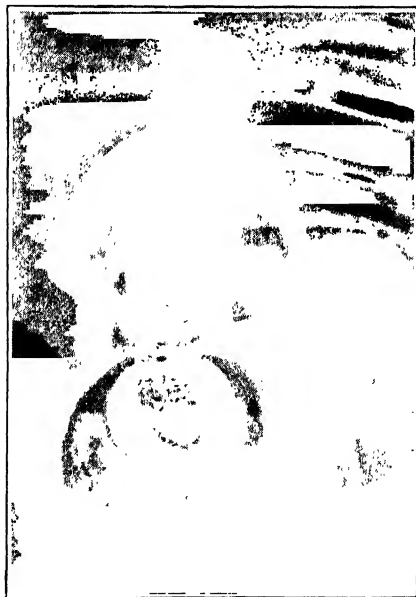


'Carp-spawn' (larval forms) being carried to a nursery tank in Manicktala (Calcutta) in earthen hundies.

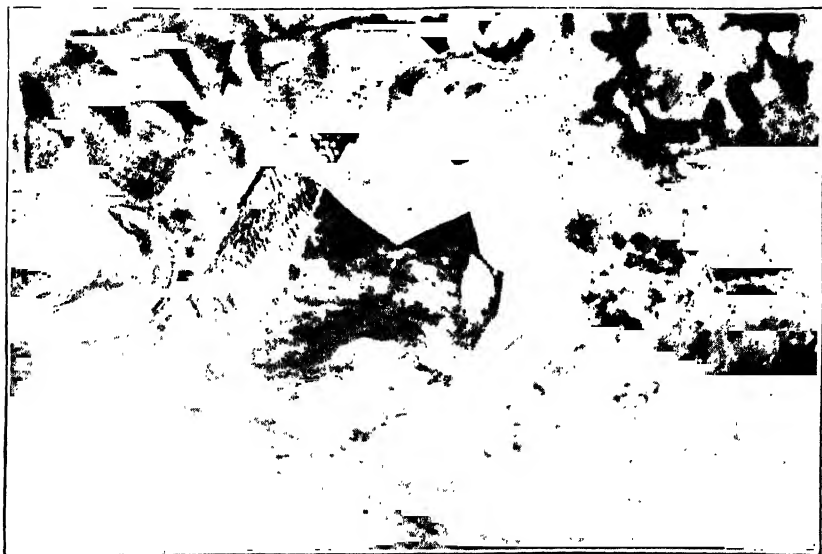


A fortnight or 3 weeks after the liberation of the 'spawn', fry of 1" to 2" in length are netted with the help of a fine-meshed net.

Bengal Fish Cultural Practices.

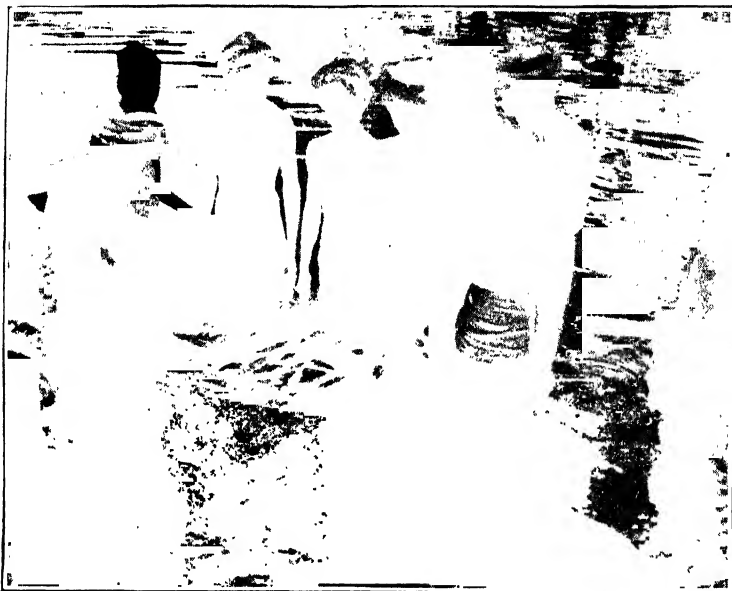


Number of fry for stocking tanks are counted by metal or basket measures and transferred into earthen hundies for transport as in the case of 'carp-spawn'.



In a properly prepared, fertilized and stocked tank, fry grow rapidly and attain a size of 5 to 10 lb. according to variety in a year. They leap madly as the net closes in on them near the bank.

Bengal Fish Cultural Practices.



After netting, the fish are sorted out. Those of the marketable size are sold on the spot to the *puikars* (retailers) and the undersized fish are transferred to another tank for fattening.



Undersized fish are being liberated into another tank for fattening.

This practice of transplanting of fry from nurseries into rearing tanks, fingerlings and young fish from rearing tanks to stocking tanks and undersized fish from one stocking tank to another induces rapid growth in fish due to grazing facilities in new pastures.

On a small collection of vertebrates from high altitudes in Kashmir State.

By NAZIR AHMAD, Ph.D., Superintendent of Fisheries, Bengal, formerly of the Department of Zoology, Panjab University.

The Zoology Department of the Panjab University has undertaken to investigate the fauna of certain regions, viz. Lahore and its environs, for the study of terrestrial, freshwater and aerial animals, Karachi for animal life in the sea and some lakes in Kashmir for the investigation of lacustrine fauna. In regard to the last, work was started in the Dal Lake and subsequently extended, during the summer vacations of 1940 and 1941, to seventeen high mountain lakes, whose fauna had not hitherto been investigated, viz. Shesh Nag (12,000 ft.), Sona Sar (12,248 ft.), Tar Sar (12,450 ft.), Chanda Sar (12,800 ft.), Dudh Nag (12,400 ft.), Sona Sar Rewli (12,595 ft.), Handil Sar (12,168 ft.), Tuliyan (11,200 ft.), Har Nag (12,300 ft.), Yam Sar (12,000 ft.), Khem Sar (12,000 ft.), Vishan Sar (12,000 ft.), Kishan Sar (12,528 ft.), Gad Sar (12,000 ft.), Gangabal (11,714 ft.), Kul (11,714 ft.), and Nund Kol (11,505 ft.).

Preliminary reports on the faunistic investigation of these lakes were read before the Section of Zoology of the Indian Science Congress at its meetings held at Benares (1941) and Baroda (1942). The present paper contains ecological notes and short systematic account of the aquatic and terrestrial Vertebrates, which were collected during the march through parts of Kashmir.

The collection includes several tadpoles and adults of *Cophophryne sikkimensis*, which has hitherto been known from Sikkim only. Its present record from Kashmir, therefore, is interesting and extends the range of distribution of the species considerably westwards along the Himalayas.

My sincere thanks are due to the leader of the party, Prof. G. Matthai, for his valuable suggestions and helpful criticism during this study.

(1) *Schizopygopsis* sp.

D. 12 (3/9); A. 9 (3/6); P. 13; C. 19.

A single small specimen was netted from the Gad Sar Lake, which is located in a deep cup-like hollow in the Sogput range. The water of the lake was yellowish-green and the temperature was 55°F. on the 11th of August, 1941, when it was cloudy and wet. The bottom of the lake is gravelly and its banks are almost barren.

The fry were moving in shoals away from the banks while the larvae were quite abundant near the bank as well as in the stream, which issued out from the lake.

In the specimen under report, each nostril has three lobules closely approximated in the centre and thus dividing each nostril in three parts externally. Mouth is subterminal. Barbels are absent. Gill-openings are wide and gill-membranes are fused with isthmus. Terminal part of the rectum is very prominent. Lateral line is complete. Colour is greyish; dorsal side of head, operculum, upper and lateral sides of body possess numerous scattered dark brown spots. As all the diagnostic characters have not yet fully developed in the specimen, so it has not been possible to assign to it an exact taxonomic position.

The visit to the snow-clad lakes made it clear that these are comparatively poor in fish-fauna. Out of 17 lakes visited by the party, indigenous species were noticed only in two. In some of the remaining lakes, exotic species of Trout are in abundance. These trouts are known to have been planted in these lakes by the Kashmir Government in the remote past and have since adapted to the new environment. It is likely that Trout have exterminated indigenous species from these lakes.

(2) *Cophophryne sikkimensis* (Blyth).

1890. *Cophophryne sikkimensis*, Boulenger, *F.B.I., Rept. and Batr.*, p. 508.

Several young and adult specimens of *Cophophryne sikkimensis* were collected from the banks of Shesh Nag lake and Chanda Sar lake. This Amphibian has been recorded only from Sikkim before.

The youngest tadpole measures 1·7 inches including tail; it is without any warts, possesses respiratory tube, horny jaws surrounded by frilled membrane and white buds representing hind limbs. In a tadpole measuring 2·7 inches including tail, marks of warts are visible and the fore-limbs have made their appearance. In a slightly older specimen the respiratory tube is missing.

(3) *Leiolopisma himalayanum* (Günther).

1935. *Leiolopisma himalayanum*, Smith, *F.B.I., Rept. and Amphib.*, II, p. 299.

The young and adult specimens of *Leiolopisma himalayanum* were abundant on and near the banks of Shesh Nag and Gangabal lakes. The colour varies slightly in different specimens but the majority of them possess the following general pattern:—

Dorsal surface is muddy yellow, with dark brown spots in five rows, spots in the central row larger than others; each side of the body with a dark brown streak, below which is another light yellow streak; ventral surface of head and neck silvery-white with dark grey lines marking the scales.

(4) *Ancistrodon himalayanus* (Günther).

1943. *Ancistrodon himalayanus*, Smith, *F.B.I., Rept. and Batr.*, p. 495.

The specimen under report measures a foot and a half in length. It was found near Chandanwari (9,000 ft.), where it was having a sun bath. The colour of the body is dark brown, while the tail possesses whitish tinge; some of the anterior ventrals and the last 9 sub-caudals are whitish, with reddish hue; other ventrals possess whitish margins.

The writer collected another specimen of this species late one evening from a thoroughfare at Katrain (Kulu), when he accompanied the Punjab Himalayan Expedition (1938) to assault 'Snowy Cone', a 20,000 feet high peak of Gopan Goh mountain in Lahaul Valley.

(5) *Gerbillus indicus* (Hardwicke).

1888. *Gerbillus indicus*, Blanford, *F.B.I., Mammal*, p. 396.

There is a single specimen in the collection. It was picked up from among stones on the way to Har Nag lake. It was in rotten condition and was full of internal parasites.

(6) *Lagomys roylei* Ogilby.

1888. *Lagomys roylei*, Blanford, *F.B.I., Mammal*, p. 456.

A single specimen was caught from the banks of Shesh Nag lake. As soon as the animal came out of its burrow, it was prevented from entering it. In an attempt to escape, it ran into the lake and was captured.

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Preservation of Botanical Specimens with Cellulose Acetate Foil.

By S. CHAKRAVORTI,
F/O., Royal Indian Air Force, Ambala.

The preservation of membranous botanical specimens for a long period is difficult especially if the specimens are frequently handled for inspection. The usual method of preserving leaves, flowers, etc. by placing them between large sheets of the blotting paper under pressure, though quite useful, necessarily involves partial desiccation and consequent brittling of the specimen. This difficulty is experienced more acutely in those parts of the country where the relative humidity is very low. Besides, relative expansion and contraction of the fibres due to periodic changes in temperature and humidity, effects of light, fatty acids left during inspection, acidity of and erosion by dust particles, the chemical decomposition products of the tissue itself and also the unavoidable physical wear and tear involved in course of handling, are in various degrees responsible for the further deterioration of the specimen. It was found by placing botanical specimens in a chamber at different humidities that a high humidity encouraged decomposition as well as growth of fungi while a low humidity led to *brittling*. The optimum relative humidity is considered to be about 50%. It is now beyond doubt that air-conditioning alone would be the answer to many of our problems of preservation.

In the existing method of preserving botanical specimens by flattening between sheets of blotting paper, the individual specimens have to be fixed to the sheet by means of threads with the result that the reverse side of the specimen cannot be easily inspected. If the specimen be very brittle or of awkward shape or if it be very small, greater inconvenience is felt in fixing it properly. All these difficulties can be substantially reduced, if not eliminated, in the new method of preservation described below:—

This method applicable to membranous and not to succulent specimens consists in the *lamination* of the flattened specimens with cellulose acetate foil under heat and pressure. The raw specimens or sections thereof are to be flattened and partially dried by placing them between blotting papers under pressure for a few days. The specimens are then placed over a thin sheet of cellulose acetate, allowing for sufficient margin, and covered completely by another sheet of the same size.

This combination is placed between two thin polished metal plates and the entire unit is called a 'form'. The 'form' is then placed in an electrically heated *mangle* and heat and pressure applied. Cellulose acetate which is thermoplastic melts and enters into the pores of the specimens and, when cooled, forms a flexible single homogenous sheet in which the specimens are permanently fixed and hermetically sealed against deteriorative gases. If the job is properly done it should not be possible to separate the two cellulose acetate foils after this treatment. It is possible to give this protective treatment to a number of 'forms' at one operation by placing all of them in the *mangle* at the same time and separating each 'form' from the other by means of a sheet of blotting paper to accommodate uneven pressure if any. The arrangement would be as follows: blotting paper, metal sheet, cellulose acetate foil, specimens, cellulose acetate foil, metal sheet, blotting paper, metal sheet and so on. The lamination can

be done in an ordinary flat-bed hand press, electrically heated and controlled by an all-metal thermoregulator, of the type used by photographers for dry mounting. It is even possible to laminate by means of a household electric iron but it requires some skill to prevent wrinkling and the product is also not as good as when lamination is done in a machine. The photograph shows a sheet of preserved botanical specimens laminated, by means of a household electric iron; a *matte* surface has been given purposely in order to make the cellulose acetate foil visible to a certain extent.

The thickness of the cellulose acetate foil, temperature, pressure and the time required vary according to the type of specimen being covered. Generally a thick specimen requires a comparatively thick acetate foil. If a number of specimens, e.g. leaves, flowers, sections of fruits, etc. are exhibited on the same sheet, the thickness of the cellulose acetate foil should be suitable for the thickest specimen in the group. For affixing the foil, the temperature range is usually 120° to 150°C. , the pressure range is from 30 to 750 lb. per square inch and the time required is from 3 to 20 minutes. The thickness of the foil ranges from 0.0009 inch to 0.01 inch. If a few thick and fibrous specimens are exhibited on the same sheeting the blank space will be so thin as to be a source of weakness and inconvenience. To avert this the blank spaces should be filled in by 'all-rag' paper of appropriate thickness leaving a margin of $\frac{1}{4}$ inch all round the exhibit. The specimen would then look like being inlaid in a full sheet of paper from which corresponding shapes had been removed to make room for the specimens.

The high temperature sterilizes the specimens and as these are hermetically sealed, bacterial fermentation is eliminated. Not only are the specimens preserved against the deteriorative influences of climate, dust and acid fumes but also from physical wear and tear owing to the additional strength imparted. As the relative positions of the specimens are permanently fixed, manipulation becomes easy and the high transparency of the covering material allows both sides to be photographed and examined visually or by a simple microscope. This treatment makes the specimen proof against insects and fungi. The sheeting is water-proof and can be washed with soap and water, if dirty. The distortion of the specimen beyond what happens during the preliminary flattening is negligible. Leaves, flowers, pollen grains, thin sections of tissues and fruits, wings and antenna of butterflies and other insects, paper, linen, silk, water colour paintings, etc. can all be preserved by this method. In every case the elasticity is maintained satisfactorily without undue increase in weight or bulk. Description of the specimen can be written on a piece of paper and inserted between the cellulose acetate foils for permanent fixture as illustrated in the photograph.

The *blocking temperature*, i.e. the temperature at which the cellulose acetate sheet begins to soften under a standard pressure, is of importance for storage owing to possible adherence of sheets to each other. As this blocking temperature ranges from 125°C. to 135°C. the sheets should not be placed on the top of the other to a depth greater than four inches. If, however, the sheets are placed in thick paper covers a depth of 12 inches can be used without any risk.

Cellulose acetate foil is quite different from 'cellophane' which is a regenerated cellulose sheeting. This wrinkles and becomes brittle with age. In an investigation of cellulose acetate foils used for motion picture films, the question of stability of this material has been thoroughly discussed. By 'accelerated ageing' test the expectation of its life has been estimated to be no less than that of a good quality paper.



Attempts were made to render a protective coating to botanical specimens by dipping them into or spraying them with solutions of cellulose derivatives but the results have not been quite satisfactory except in specific cases.

Cellulose acetate foil is less expensive than good quality blotting paper and can be obtained either in rolls or in sheets made to size by the manufacturers. Foils 0.0009 inch thick and measuring 30" by 40" cost Rs.35 per ream, i.e. annas -/13/- per 100 sq. feet. The average weight of a foil 1/1000 inch (1.0 mil) thick is 2.73 grains per square foot or 29.4 gm. per square meter.

The only disadvantage is that the process requires an electrically heated press preferably with thermostatic control. Specimens having widely different physical characteristics have been given this preservative treatment by the author with entirely satisfactory results.

ACKNOWLEDGMENT

The author acknowledges with thanks the assistance of the S.H.Q., R.A.F., Ambala, in taking photographs of the preserved specimens.

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PROCEEDINGS OF THE ANNUAL MEETING, 1945.

An Annual Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 5th February, 1945, at 5-30 P.M.

PRESENT:

HIS EXCELLENCY THE RIGHT HON'BLE RICHARD GARDINER CASEY, C.H., D.S.O., M.C., Governor of Bengal, Patron.

DR. SYAMAPRASAD MOOKERJEE, M.A., B.L., D.Litt., LL.D., Barrister-at-Law, President, in the Chair.

Members :

Agharkar, Dr. S. P.
Agrawal, Mr. B. M.
Akbar, Mr. M.
Ali, Mr. A. F. M. Abdul
Asadullah, Khan Bahadur K. M.
Bagchi, Dr. K. N.
Batin, Mr. C.
Bhalwala, Mr. D.
Bhattacharji, Mr. S.
Biswas, Dr. Kalipada
Rose, Mr. A. C.
Bose, Mr. M. L.
Brahmachari, Dr. P. N.
Brahmachary, Rai Bahadur S. C.
Brown, Mr. Percy
Burman, Mr. D.
Chanda, Mr. A. K.
Chatterjee, Mr. P. P.
Chatterjee, Mr. R.
Chatterjee, Mrs. T.
Chowdhury, A. B. Mohd. S. A.
Chunder, Mr. P. C.
Crookshank, Dr. H.
Culshaw, Rev. W. J.
Das, Mr. S.
Dutt, Dr. N.
Edgley, The Hon'ble Mr. Justice N. G. A.
Fawcett, Mr. L. R.
Ghani, Mr. O.
Ghatak, Mr. J. C.
Ghose, Mr. D. C.

Visitors :

Ahmed, Mr. Nazir
Akbari Ali, Mr. M.
Basu, Mr. N. K.
Bhattacharya, Mr. P. K.
Bhatia, Mr. P. K.
Chaturvedi, Mr. S. L.
Chatterjee, Mr. N. N.
Chen, Mr. C. P.
Chowdhury, Dr. J. K.
Chowdhury, Mr. S. K.
Das, Mr. K. N.
Edgley, Mrs. K.
Finlay, Miss E.
Ganguli, Mr. K. K.
Ghosh, Mr. A. K.
Ghosh, Mr. H.
Ghosh, Mr. H. N.
Gupta, Mr. B.
Jalil, Mr. A.
Jamil, Mr. M. T.

Ghose, Mr. D. P.
Ghose, Mr. S. C.
Ghose, Mr. S. K.
Ghoshal, Dr. U. N.
Griffiths, Dr. W. G.
Guha, Mr. S. K.
Gupta, Mr. P. C.
Haq, Khan Sahib M. M.
Hendrie, Major J. H.
Hora, Dr. S. L.
Husain, Mr. Mahdi
Ishaque, Dr. M.
Khaitan, Mr. K. P.
Khaitan, Mrs.
Mukherji, Dr. S.
Nag, Dr. K.
Neogi, Dr. P.
Osborn, Dr. H. B.
Poddar, Mr. M. G.
Ray, Dr. N. R.
Ray, Mr. S. K.
Rahman, The Hon'ble Mr. Justice A. S. M.
Latifur
Rahman, Mr. S. K.
Sarkar, Sir Jagunath
Sen, Mr. M. K.
Sen, Rai Bahadur N. C.
Sen, Mr. S. P.
Siddiqi, Dr. M. Z.
Singhi, Mr. R.
Sinha, Mr. A. P.
and many others.

Majumdar, Mr. S.
Mason, Mr. G. H.
Mukherjee, Mr. A. K.
Mukherjee, Mr. H. G.
Mukherjee, Mr. K.
Mukherjee, Mr. S.
Myers, Mr. M. S.
Nag, Mr. R. C.
Nair, Mr. K. K.
Nityaswarupananda, Swami
Rahman, Mr. F.
Rezevi, Mr. T.
Roy, Mr. A. D.
Santwan, Mr. T. D.
Schroff, Mr. M. L.
Sen-Gupta, Mr. M. S.
Sen-Gupta, Mr. R.
Spens, The Hon'ble Sir Patrick
Spens, Lady
and many others.

The President declared the Annual Meeting open, and said

‘Ladies and Gentlemen,

Voting papers for the election of Council for 1945 and for the election of an Ordinary Fellow will be distributed to all the Ordinary members present.

I request the Ordinary members present to put their voting papers in the collection boxes which will be sent round to them.’

After the distribution of the voting papers, the President appointed Khan Bahadur K. M. Asadullah and Dr. U. N. Ghoshal to act as scrutineers.

The President then called upon the General Secretary to present the Annual Report for 1944.

The General Secretary presented it.

At 5-55 P.M., the President, accompanied by the Treasurer, left the meeting room to receive the Patron, His Excellency the Governor of Bengal, at the main door of the building, and appointed Sir Jadunath Sarkar, M.A., C.I.E., Kt., to occupy the chair during his absence.

On arrival of the Patron, the President introduced the Council to him, and then invited him to occupy the chair.

The Patron occupied the chair and called upon the President to read his address. The Patron then addressed the meeting.

After the Patron’s address, the President made the following announcements:—

‘My first announcement is regarding the Election of an Ordinary Fellow. I have now the great pleasure to announce that, having received the report of the scrutineers, I declare that

Dr. Probodh Chandra Bagchi,

an Ordinary member of the Society, has duly been elected an Ordinary Fellow of the Royal Asiatic Society of Bengal.’

‘I have next to announce that papers from only one candidate has been received during the year in competition for the ‘Elliot Prize for Scientific Research’ which was for Mathematics. The Trustees of the Prize have judged his papers deserving of the award and it has accordingly been given to Dr. S. K. Chakrabarty, D.Sc., Lecturer in the Department of Applied Mathematics, University College of Science and Technology, Calcutta, for meritorious contributions to the subject of Mathematics.

‘The prize for next year will be for Chemistry concerning which notifications have already been published in the ‘Calcutta’, ‘Bihar’ and ‘Orissa’ Gazettes.’

‘My next announcement is regarding the Joy Gobind Law Memorial Medal. This medal is awarded every three years to that person, who, in the opinion of the Council, has made conspicuously important contributions to our knowledge of Zoology in Asia.

‘The medal for the year 1944 is awarded to Rai Bahadur Dr. S. L. Hora, D.Sc., F.Z.S., F.N.I., F.R.A.S.B., Director of Fisheries, Bengal, in recognition of his conspicuously important contributions to our knowledge of Ichthyology of Asia.’

‘My next announcement is regarding the Paul Johannes Brühl Memorial Medal.

‘The medal is awarded triennially to a person who, in the opinion of the Brühl Memorial Advisory Board, has made the most meritorious piece of original research in any branch of Botany with reference to the Indian Empire.

‘The medal for 1944 has been awarded to: Dr. N. L. Bor, D.Sc., F.L.S., F.N.I., I.F.S., formerly Forest Botanist, Imperial Forest Research Institute, Dehra Dun, and at present in charge of the Burma Refugee Organization in Shillong, Assam, for his conspicuously important piece of original research in the Graminae and Ecology of the Indian Plants.’

‘My next announcement is regarding the Dr. Bimala Churn Law Gold Medal. This medal was instituted in 1943 to be bestowed annually on a person who, in the opinion of the Council, is considered to have made conspicuously important contributions to any one of the following subjects: History, Geography, Philosophy, Religions, Ethnology, Folklore, Fine Arts and Architecture, with reference to India

from the earliest time down to the 13th century A.D. and Bengali languages, literature and philology.'

'The medal for 1944 has been awarded to Dr. D. R. Bhandarkar, M.A., Ph.D., F.R.A.S.B., formerly Carmichael Professor of Ancient Indian History and Culture, Calcutta University, for his conspicuously important contribution to Ancient Indian History and Archaeology.'

'My next announcement is regarding the Sarat Chandra Roy Memorial Medal. This medal was instituted in 1944 to be bestowed annually on a person, who, in the opinion of the Council, is considered to have written the most outstanding book or monograph on any aspect of the Cultural Anthropology of India in the English language, failing that, in Bengali.

'The first award of this medal is made to Dr. Verrier Elwin, D.Sc. (Oxon), F.N.I., of the Bhumijan Seva Mandal, Patangarh, C.P., for his meritorious and many-sided contributions to the study of Cultural Anthropology of India.'

The Patron handed over the prize and the medals to the respective recipients after each announcement.

Finally, the President announced the result of the Council election as follows:—

'Having received the report of the scrutineers, I declare that the following names of the gentlemen, set forth on the Ballot Paper, have been duly elected as members of the Council for 1945.' (See page 12.)

The President then proposed to the Patron a vote of thanks, which was adopted by acclamation, and declared the Annual Meeting to be dissolved in the following words:—

'Ladies and Gentlemen, in declaring the Annual Meeting dissolved, I invite the non-members to examine a collection of exhibits at the eastern end of the hall, and the members to re-assemble around this table for an Ordinary Monthly Meeting for the transaction of business.'

After this final announcement, the President and the General Secretary conducted the Patron through the scientific and cultural exhibits and accompanied him to the gate on his departure.

ANNUAL ADDRESS, 1944-45.

LADIES AND GENTLEMEN,

In accordance with time-honoured custom it is now my privilege to address the Society and to extend my cordial welcome to our members and supporters. I offer to our Patron, His Excellency Mr. Casey, my warm felicitations on behalf of the Society. To our deep regret he was unable to attend our last Annual Meeting on account of sudden illness. I have not the least doubt that in all our efforts to strengthen the beneficent activities of the Society we shall receive his spontaneous support and guidance.

The annual report of the Society which has just been placed before you gives a brief survey of its many-sided activities. The task of re-organization undertaken some years back is being carried on with vigour and efficiency. Preparation of catalogue of our books and our invaluable stock of manuscripts and their preservation and repair are proceeding in a scientific way. Slip catalogue for about thirteen thousand manuscripts made over to us by the Indian Museum, has been completed and they are now open for utilization. Good progress has been made with the printing of descriptive catalogue of Sanskrit as well as Islamic manuscripts. Our Journal is now a regular feature of our activities and important works are appearing in the series of our Memoirs. Bibliotheca Indica has been revitalized and a number of important books has been added to this series during the last five years. Our sale of publications has rapidly increased, indicating a welcome appreciation on the part

of scholars and general readers. The funds thus available are being utilized in further useful undertaking. We have just decided to print the second and third volumes of the *Ain-i-Akbari* revised and edited by our renowned colleague, Sir Jadunath Sarkar. The Society is grateful to the Government of India for granting facilities for use of paper without which our publication department would have come to a stand-still. The last twelve months witnessed a record increase of our members and they have come from all classes of enlightened people, irrespective of race, creed and community.

The outstanding activity of the Society during the last year relates to the proposals made in connection with Cultural Reconstruction in India. The main topic of my address today will deal with this question, so vitally affecting the country's future welfare and progress. The Society does not claim to have said the last word on the subject. Our proposals will, however, form the basis for fruitful discussion and will serve to stimulate public opinion. The proposals that have emanated from the Society have been carefully examined by two ably-constituted committees representing diverse points of view. I deem it, however, my duty to record my appreciation of the pioneer work done in this connection by one of our esteemed colleagues, Mr. Justice Edgley who in spite of his onerous duties as a judge has served the cause of Indian history and culture with all the zeal and fervour of a devoted scholar.

When the Royal Asiatic Society of Bengal was founded in the eighties of the eighteenth century, Science still formed a part of general culture. The study of Man and Nature was the avowed object of the scholars and philosophers of those days. The study of Man was not yet dissociated from the study of Nature. All human achievements whether embodied in traditions and institutions, both civil and religious, or those in the field of natural sciences were regarded as subservient to the same great purpose of human culture. But the world has moved far since those days. Science has made such great strides that it has far outgrown its original scheme. It has brought so many comforts to us that, however relative their importance may be in the history of human efforts, it has almost dazzled our eyes and thrown cultural studies into the background. This has not been without its baneful effects. Science, almost snatched away from the hands of those selfless philosophers who brought it into existence for the solution of higher problems in Nature, has been applied, much to the awe and indignation of its makers, to purposes that have brought disasters to humanity. It has often failed to render that service to us which it could have done within the original scheme. Time has therefore come when science should be made to yield its due place to human culture.

Science is essentially international and does not represent the true ideals and aspirations of any particular nation. Only in the field of its application it is conditioned by national exigencies. If such exigencies are disregarded, if the national needs and requirements are ignored, if the local conditions and capacity for adaptation are overlooked, the application of science produces results that are not beneficial to the nation. The ideals and aspirations of a nation are best represented by its culture. It cannot be denied that in India too, in spite of the variety in languages, religions and physical types, there is a basic national culture. Under the influence of environment, whether geographical, physical or ethnic, we have evolved through millenniums of years cultural traditions which bind us together into an Indian nation, however different our religious convictions may be. Sinister propaganda may cloud our vision for the moment and keep the integrating elements separate for a time, but if we search our hearts we will at once discover those inclinations which we have inherited from age-long traditions of a common culture. All creations in the field of literature, philosophy, painting, sculpture, architecture and music, irrespective of the zonal, communal or religious affiliations of their creators, move the hearts of all of us alike. They alone stand as the symbol of our unity and nationhood.

When therefore we are on the threshold of a new age, as it seems, and when there are talks of all-round reconstruction in various spheres of our national life, we must try to realize once more our true cultural ideals and aspirations. All reconstructions, whether scientific, industrial or economic, must go hand in hand with a cultural reconstruction of the nation. That alone can arouse to the highest degree

that consciousness in us which is required, specially at this moment, to stand as a united Indian nation in the true sense of the term. Such a reconstruction will inculcate in us love for the country, respect for its history, tradition, literature, arts and monuments and arouse in us a balanced sense of pride for all that was ours and for all that we have inherited from the past. This sense of pride must come from a proper evaluation of our cultural heritage so that it does not become over-aggressive. History has shown us in a poignant manner what harm an aggressive nationalism can do to humanity. In our study of the past we have received from the west an unassailable method, but it must be admitted that this method alone cannot unfold the past in its true perspective. Those who are born in the tradition, who have inherited the culture of the land through ages and have a sense of respect for that heritage are in a better position to apply the method with the greatest amount of success. The study of the past does not mean the dissection of a carcass. The past is not a dead past. It has brought the present into being and those who live in that present are best qualified to discover the subtle links between the past and the present which constitute the very life of a civilization.

The annual address which was delivered by Sir William Jones on the 24th of February, 1785, the second year of the then newly started Asiatic Society of Bengal, contains these significant words: 'The civil history of their (Asiatic) vast empires, and of India in particular, must be highly interesting to our common country; but we have a still nearer interest in knowing all former modes of ruling these inestimable provinces, on the prosperity of which so much of our national welfare and individual benefit seems to depend. A minute geographical knowledge not only of Bengal and Bahar, but for evident reasons, of all the kingdoms bordering on them, is closely connected with an account of their many revolutions: but the natural productions of these territories especially in the vegetable and mineral systems, are momentous objects of research to an imperial, but, which is a character of equal dignity, a commercial people.' The Asiatic Society of Bengal, inaugurated in the times of Warren Hastings, the first Governor-General of India, was thus the first organization whose business was not only to collect materials, both literary and archaeological, for the past history of India, but also to amass concrete information about her vast natural resources. The selfless efforts of its organizers and generations of its members, both European and Indian, during a little more than a century and a half of its history have brought together a mass of materials which are so worthily displayed in the pages of the past and present volumes of its Journal. The various collections of Indian objects of archaeological, geological, zoological, palaeontological, entomological, anthropological and ethnological character, which were so assiduously made by its previous members, actually served as the substantial nucleus of the Indian Museum, Calcutta, one of the finest museums of the world. The literary efforts of its past alumni inspired to a very great extent not only many outsiders but also several eminent children of the soil like Raja Rajendralal Mitra to engage themselves in the work of throwing considerable light on the then little known history of India's past culture and tradition.

The task of writing a true and connected history of pre-Muslim India has been rendered extremely difficult by the colossal loss caused to ancient Indian monuments due to a policy of destruction pursued by foreign elements who periodically visited India, either for plunder or for gaining political control over her destinies prior to the advent of the British rule. Such monuments constitute the principal source for a systematic reconstruction of our past history and the preservation and proper study of what little is still left to us are of utmost importance in this respect. When we study the history of the previous attempts for the preservation of our cultural inheritance, during the early and middle periods of the British rule in India, we are confronted with the absence of any active interest of Government in this matter. The noble efforts of such individuals as Jones, Colebrooke, Wilson, Prinsep, Kittoe, Cunningham, Fergusson, Raja Rajendralal Mitra, Bhau Dauji, Bhagawan Lal Indraj, Ramkrishna Gopal Bhandarkar and others in collecting materials for the past history of Indian culture and publishing them were mostly made in their private capacity. The original example of duty which was set to

Government by this band of enthusiastic workers could not but evoke some sort of response, of however tardy a character, in the former, and some of them, such as Cunningham and others, were given official status and encouraged to pursue their useful activities. But even then Government, especially in the last part of the Company's rule, were culpably ignorant of the nature and magnitude of this kind of work on account of their total inability to grasp the real values of things. Lord William Bentinck is regarded as one of the most enlightened Governor-Generals of India and yet it was in his time that the Taj Mahal was on the point of being destroyed for the value of its marbles. It was the same ruler of India who sold by auction the marble bath in Shah Jehan's palace at Agra, originally torn up by Lord Hastings for a gift to George IV. After 1857, a solemn proposal was made by the then Government to raze to the ground the Jumma Musjid at Delhi, one of the noblest ceremonial mosques in the world. As late as 1868, the gateways of the Great Stupa at Sanchi in the Bhopal State were on the point of being destroyed and one of them, the Eastern one, was about to be presented to Napoleon III, the Emperor of the French. Be it said to the credit of John Lawrence, one of the members of Government, that this great act of spoliation was successfully prevented through his efforts. Some sculptured pillars of the beautiful Ajmere temple, turned hastily into a mosque during the early Muslim period and now known as Adhāi-din Ki Jhomprā, were pulled down by a zealous officer to construct a triumphal arch for the then Viceroy to pass under. Innumerable sculptural and architectural pieces from Sarnath, belonging to Brahmanical and Buddhist shrines of great antiquity, were carried away by official orders from the site and thrown into the Ganges as ballast when the Dufferin bridge was being constructed at Benares. Many more such instances of vandalism of greater or lesser magnitude can be cited for which Government of earlier times can be held directly responsible either through errors of commission or omission.

It was, however, in the time of Lord Canning, the first Viceroy, that archaeological work in India won for the first time some sort of permanent State patronage. The Archaeological Survey of Northern India was constituted in 1860 and Cunningham was appointed in 1862 as Archaeological Surveyor and afterwards the first Director-General of Archaeology in India. The twenty-three volumes of old archaeological reports that were published by him and some of his able assistants show what good use was made by him and his lieutenants of the limited opportunity with which they were provided. Then followed a long period of partial stagnation and occasional spurt in the governmental activities of preservation and study of the ancient and mediaeval Indian monuments. It must be said to the credit of Lord Curzon, one of India's most forceful Viceroys and Governor-Generals, that he recognized the full value of this work. He very correctly pointed out in his speech before the members of the Asiatic Society of Bengal in 1899 that—'it is in the exploration and study of purely Indian remains, in the probing of archaic mounds, in the excavation of old Indian cities and in the copying and reading of ancient inscriptions, that a good deal of the exploratory work of the archaeologist in India will in future lie A curtain of dark and romantic mystery hangs over the earlier chapters, of which we are slowly beginning to lift the corners. This also is not less an obligation of Government. Epigraphy should not be set behind research any more than research should be set behind conservation. All are ordered parts of any scientific schemes of antiquarian work'. The reconstituted Archaeological Department of India from the time of Lord Curzon onwards worked under the able guidance of Sir John Marshall, and it was in the latter's period of official tenure that one of the most outstanding archaeological discoveries of India was made by a Bengali archaeologist of eminence, the late Rakhaladas Banerjee. The discovery of the prehistoric sites in Sind and lower Punjab regions, which after systematic excavation yielded invaluable mementos of the Indus Valley culture, was an event of far-reaching importance, for it changed a great deal of our preconceived notions about the nature and antiquity of Indian culture. Another important result of the activities of the Archaeological Department was to inspire many private individuals and societies with ideas about the systematic collection of materials for the past history and culture of our country. Varendra

Research Society, to mention only one among the latter, proves to a remarkable degree what good work of this character could be done by a band of enthusiasts inspired by the deepest love for the cultural achievements of their own land. The University of Calcutta took a leading rôle in the work of throwing considerable light on early Indian history and culture. The practical side of this work, viz. the collection of archaeological and artistic materials, which was not at first taken up by it, has since been energetically adopted. The Asutosh Museum, at present an indispensable adjunct of Calcutta University, has within a very-short period of its existence more than justified its creation. Thanks to the devoted zeal of its Curator, it can very well be regarded now as one of the few repositories of materials of inestimable value for the study of art and culture of Bengal. We shall watch with interest the recent attempts to re-vitalize Indian archaeology due mainly to the energetic efforts of India's new Director-General of Archaeology.

I do not look at Indology from any narrow angle. To me Indology means much more than a mere study of India's past language and literature by a limited group of scholars; it is a message born out of healthy mass-culture, a message of the people of India to the world. Indian people have lived peacefully side by side with her neighbouring peoples and races for millenniums together. When Indian nationals visited foreign lands, they carried with them not arms, not ammunitions, but messages of peace and good-will. Cultural intercourse between India on the one hand and China, Indo-China, Malayasia and the South Sea Islands on the other is now a matter of history. People of India were equally catholic in their assimilation of other cultures. The Greeks, the Scythians and the Huns came as enemies, but ultimately they found places not only in our body politic as friends, but were ever absorbed within our social fabric. Unity amidst diversity was the greatest achievement of Indian culture and civilization. The crusaders against Brahmanical Hinduism, Buddha and Pārśvanātha, were not branded as heretics but received the same respect as is paid to its own founders. Rishi Chārvāka, the champion of materialism, is held in the same high esteem as is offered to Vasiṣṭha or Viśvāmitra, the torch-bearers of the orthodox faith. Social equity and justice was the watchword of our life. Every one found his own place in the social and economic life of the land, destined to play his own part and to fulfil his own mission. Every citizen was only the part of a complete whole, a mere limb of a dynamic social organism. There was a thousandfold diversity no doubt, but this diversity was never compartmental; it blended into a unity in the ultimate purpose—the welfare of mankind irrespective of one's birth, wealth, creed or religion. Education was given the highest place. The learned are respected everywhere, the king only in his own land (*svadeśe pūjyate rājā, vidvān sarvvatra pūjyate*). The average standard of education was high enough to produce scholars, and the kings were ever ready to support them, to find their material needs so as to ensure them abundant leisure for following study and research.

Research does not mean a mere excavation of the past; its main task lies in building for the future. Organized study and research requires a study centre, an academy for the cultivation of Arts and Sciences. Our Society has afforded so long a meeting ground of scholarly men, old and young, wholly engaged in the pursuit of knowledge following diverse branches of study in different organizations. But the demands of the age are greater. We should from now begin to think in terms of broad-basing our foundation so as to serve the purpose of a full-fledged Academy of Research, which must have its own whole-time scholars and fellows, dedicated to the cause for which the Society stands.

As I said in my last address, the Society, though remaining a learned one, must continue to be a well-equipped and functioning centre from where new information and knowledge may be disseminated to the public in various fields of intellectual activity, social and economic, literary and scientific. I am glad to tell you that the Society during the past year, has sought to elevate the intellect of the people and to broaden their minds and sharpen their curiosity by means of series of lectures and discussions on important branches of knowledge, both ancient and modern. It has undertaken to publish a volume, embodying select lectures delivered at the Society's

discussion meetings, which would serve as a good introduction to Indian life and culture. Another volume embodying results of modern scientific researches is also under preparation. These two volumes will bring home to the people it serves the fruits of investigations of scholars in various fields of intellectual activity.

Let me emphasize that I do not at all minimize the need for a radical reorientation of the economic and industrial policy of India. A country whose educational and economic backwardness is a standing disgrace to human civilization has got to be placed on her feet again and its people must get the fullest advantage of its inexhaustible raw-materials. But let me state at the same time that neither can India attain her full strength and glory nor can she contribute worthily to the cause of stabilizing human civilization, if we ignore the need for a proper cultural reconstruction in India. The proposals made by the Society are of a far-reaching character and they deal with such problems as establishment of a National Museum, of a School of Indian Architecture, of a National Cultural Trust, of a National Academy of Arts and Letters, of National Parks, of a Central Record Office in Bengal, of a Travellers' Department in India and also the future development of the Archaeological Department. The proposed all-India institutions, we have emphasized, must be allowed to function as free and autonomous bodies enjoying full measure of State support but worked and organized by outstanding representatives of diverse cultural and scientific interests and occupations, all working together for revitalizing Indian life and civilization.

The bicentenary of the birth of our founder, Sir William Jones, falls next year. It is my privilege to call upon you to prepare for the celebration of this occasion in a manner befitting the memory of that great Orientalist who paved the way, by establishing this Society, towards a common meeting ground of the culture of the East and the West. The West has failed to show mankind the way to peace and happiness; it has led us into the blind alley of death and devastation. The torch in the orient, in India and in China, is still alight, still ready to serve the ailing humanity and to show her the path of truth. The future of the world lies in a just recognition of freedom for all, which must be the principle of peace yet to come. In the words of a thoughtful western writer, the abnormal unhealthy experience of war has only given the countries glimpses of each other fighting, in deep distress, wounded, dying. The peoples have not had the experience yet of living together, respecting and honouring each other as true equals. In the renaissance of the Middle Ages it was the East that gave to the West. In the modern renaissance of Asia it was the West that gave to the East. But now each has something to give to the other and from this mutual need and richness there will spring, if the times are free, life for mankind richer and better than anything we have yet known. It has been truly said, today the peoples of the East and West need each other. Nothing must be allowed to keep them apart—neither the greed of merchants nor the ambition of empire-builders and dictators, nor the prejudices of the arrogant. The plain peoples of the earth must find each other, they must discover that they are alike in their simple and deep desires. East and West—we are rightly reminded—we do long for the same things, for love and home and children; for work whose fruit will feed the family; for peace, for freedom in which to live and think and grow. These are not impossible longings, not dreams that cannot be realized. They are the rights of all mankind. But the plain peoples must work together to achieve them, and give them to each other or they will not have them. And how can they honourably work together, except as friends, true and equal, ceasing to be strangers and forsaking the rôle of the exploiters and the exploited?

Animated by a passionate longing for breaking the barriers between the East and the West, based upon the fundamental concepts of the mighty civilization of India, our illustrious founder called upon all true lovers of peace and seekers after truth to open every door of approach, to cultivate every source of knowledge, to try to find out by every possible means the ways and habits and beliefs and hopes of all peoples, so that with common knowledge and in mutual understanding we may strive together for a good and peaceful world. May his idealism and his far-sighted vision animate the present and future workers of the Society so that it may fully

contribute to usher in a new era of peace, progress and freedom in India and in other parts of the civilized world!

S. P. MOOKERJEE.

CALCUTTA,

5th February, 1945.

PATRON'S ADDRESS.

SPEECH BY HIS EXCELLENCY THE RIGHT HON'BLE RICHARD GARDINER CASEY, C.H., D.S.O., M.C., GOVERNOR OF BENGAL, AT THE ANNUAL MEETING OF THE ROYAL ASIATIC SOCIETY OF BENGAL, HELD ON THE 5TH FEBRUARY, 1945.

Last year I was unfortunately prevented from being present at the annual meeting, and so I am all the more glad to have this present opportunity of meeting you and saying a few words to you as members of one of the foremost learned societies in India and as heirs to a long tradition of scholarship and research over a wide field.

In the first place, I should like to congratulate the retiring President, Dr. Syamaprasad Mookerjee, on the successful activities of the Society during the past year, and at the same time to thank him for the very stimulating and scholarly address that he has just given us. I welcome to office the new President, Dr. Meghnad Saha who, as a delegate with the Indian Scientific Mission now visiting the United States of America, is unfortunately unable to be with us today. I am very glad to know that such a distinguished scientist has become President of this cultural society, and I sincerely hope that it may be said to portend the closer integration of science and culture which, as Dr. Mookerjee has said in his address, is of such very great importance for the future development of human civilization.

I believe that Dr. Saha is best known to scientists by reason of his discovery of ionization in the chromosphere of the sun which, according to no less eminent an authority than the late Sir Arthur Eddington, is one of the ten outstanding discoveries in astronomy and astrophysics since the discovery of the telescope by Galileo in 1608. He is also known for the leading part he has taken in organizing institutions for the promotion of science in India—including the U.P. National Academy of Science, the Indian Science Congress Association and the National Institute of Sciences of India—and I can imagine no one better qualified to represent the sciences and to serve the cause of cultural-scientific unity as President of this distinguished Society.

I am, as you know, only a newcomer to your Society—and I do not pretend to be aware of the boundaries that you place on your activities and your interests. Such reading of your Year Books as I have been able to undertake has impressed me with the great range of your interests, which seem to spread from the completely cultural to the completely practical and utilitarian. I am much encouraged by this catholicity.

In speaking to inform myself as to the purposes for which this Society was formed, I find that its first President, Sir William Jones, gave you a very wide field. In addition to an extensive range of arts and sciences and cultures, he encouraged you to add researches into agriculture, manufacture and trade—and ended with a warning—which I like to believe may have had a note of sternness in it—not to neglect what he was pleased to call these 'inferior arts'.

Now it is to these allegedly 'inferior arts' that I would like to direct your attention for a moment—because I believe that a Society such as this can help a great deal.

I believe that the application of science to industry and agriculture is only in its infancy—and that a learned Society such as this, by the inspiration and encouragement that it can give, can be of great practical assistance to the well-being of the people of India—and so of Bengal.

I hope I do not brand myself in your eyes as a Philistine by my sponsoring and stressing what no doubt many of you may regard as the lower end of the scale of your interests—the pursuit of the ‘inferior arts’ of which your Founder spoke.

I realize very well that life is many-sided—and that man does not live by bread alone. However, to the great mass of the people, bread—or its equivalent—is vastly important—and anything that those of us who are fortunate enough to be above the breadline can do to improve and lift up the level of life for the masses, I believe we should do.

Scientific research directed towards the betterment of agriculture and industry has great economic importance. I know of no more lucrative investment for public moneys than in well-directed scientific research in aid of the principal occupations of a country.

In brief, what I would hope that this Society would do, *inter alia*, would be to lend the great weight of its prestige to the sponsoring and encouragement of the application of modern scientific research to the old arts of agriculture and of industry. I am encouraged to speak to you of these scientific matters by reason of the terms of encomium in which Professor A. V. Hill has written of the Society in a recent report on Scientific Research in India. Speaking of the Society as the oldest learned society in India, Professor Hill remarks that ‘from its activities has sprung by far the larger part of subsequent scientific activity in India, not to mention all its own work in literature, history, archaeology and philology’.

There is a vast deal to be done in the way of agricultural and industrial research. Relatively little—or so I believe—has yet been done in these directions in India. Professor Hill states that India is spending on agricultural research considerably less than Great Britain, a country one-twentieth the size of India and in which agriculture is relatively of lesser importance than in India. Professor Hill goes on to calculate that agricultural research in India in terms of money has been restricted to one pice per head of the population per year and one-tenth of an anna per year per acre of the total area.

The tempo of scientific research—in its severely practical aspects—has to be quickened. I would believe that this is a joint responsibility of the Government of India and the Provinces—although clearly, in order to avoid duplication of effort, I would believe that the task of fundamental research on matters that are broadly the concern of India as a whole should, in the general public interest, be undertaken by the Government of India.

Scientific research, as you know very well, has been conducted in practically every country of the world in greater or lesser degree for many years. A great deal of ground has already been covered. The results of research are, in general, available to all others. A great deal of time and energy can be saved by any one country by keeping itself adequately and currently informed of what has been done elsewhere on problems of mutual concern. So far as I am aware, there is no one world clearing house of information on the whole field of scientific research. I believe that each country has to make its own arrangements and to create its own links in order to keep itself abreast of the work being done elsewhere in the particular directions in which it is interested. I am without information as to the extent to which India has already forged these scientific links with other countries.

This subject—the scientific unity of the world—is only one example of the movement of all countries towards greater unity through mutual inter-dependence—by the breaking down of local barriers which are standing in the way of that closer understanding which can only be for the general good.

I believe that India has a great harvest of benefit waiting to be reaped by taking advantage of the many directions in which other countries of the world have already solved—or have gone some way towards solving—problems which beset us in India. I seem to detect—I hope I am wrong—a certain reluctance in India to take advantage of the experience of other countries—experience that would, in the majority of cases, be freely available if India were to seek it.

Learned societies play an essential part in breaking down the barriers with which we are apt to hedge ourselves. They provide meeting grounds of familiar

association and fellowship in the common pursuit of knowledge by which to better the lot of ordinary men. I believe this Society provides this ground outstandingly in India.

And now, on another subject. I would like to report to you, knowing your interest and concern with archaeology, that I have been doing what I can to forward the study of the many archaeological remains within the borders of this Province. There is not a great deal that I can do in this regard, by reason of the fact that 'archaeological sites and remains' are the concern of the Central Government under the Government of India Act, 1935. However, Dr. Mortimar Wheeler, the distinguished head of the Archaeological Survey in India, is a friend of mine and I have been in considerable correspondence with him on the subject, as a result of which I am glad to have been instrumental in having a considerable number of the principal archaeological sites in Bengal photographed from the air through the courtesy of Eastern Air Command, who are being good enough to do this work in the course of the training in air photography of those squadrons which specialize in this activity. Who knows that photography may not reveal the lost capital of Ramavati?

I may also say—in this same connection—that Eastern Air Command is collaborating very fully and generously in the providing of air photographs of the Bustee Areas of Calcutta and so putting us in possession of a more complete and detailed picture of what we have to tackle in this regard than would otherwise be possible, without very considerable expense and delay.

I would like to take this public opportunity of thanking Eastern Air Command for their willing collaboration and help in both of these directions.

I am very glad to know that during the past year the Society has been taking an active interest in the formulation of schemes for the cultural side of post-war reconstruction. I have read some of the correspondence that has passed between the Society and the various Departments of the Government of India, and it is good to know that this distinguished institution is so readily awake to its responsibilities as a non-official organization of cultural leadership in the life of the country. I mentioned my sympathies with these objects when I recently opened the Fine Arts Exhibition held in Calcutta. I am glad to find that the views which I expressed are so near to the aims of the Society.

As increasing knowledge permits me to identify myself more closely with the heritage of India—and of Bengal—I look forward to increasingly fruitful acquaintance with the premier learned body of the country. This acquaintance has started, but it shall not end, today.

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ROYAL ASIATIC SOCIETY OF BENGAL, 1945.

*Elected and announced in the Annual Meeting,
5th February, 1945.*

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EXHIBITION ANNUAL MEETING.

LIST OF EXHIBITS SHOWN AT THE ANNUAL MEETING OF THE ROYAL ASIATIC SOCIETY OF BENGAL ON THE 5TH FEBRUARY, 1945.

1. ARCHAEOLOGICAL SECTION, INDIAN MUSEUM, CALCUTTA.

- (1) A preliminary survey recently conducted along a part of the area of the Mainamati and Lalmai hill ranges in the Comilla District, East Bengal, resulted in the discovery of a few ancient mounds of considerable archaeological interest. The finds unearthed in the course of trial diggings in some of the mounds consist of Brahmanical as well as Jaina stone sculptures, terracotta plaques bearing motifs, expressive of fancy and folk art, votive images of the Buddha in bronze, a few coins and plenty of potsherds. The mounds are supposed to be dated *circa* 8th–11th centuries A.D.

(a) Votive images of the Buddha.

The four images exhibited, represent *Vajrasana Buddha-Bhuttaraka* with the *Vajra* shown on the pedestal in front, while the Buddha's right hand indicates *Bhumisparsa-mudra*. They are supposed to be offerings from Buddhist pilgrims who carried them on their pilgrimage.

(b) A silver coin.

The specimen apparently belongs to the 'Chandra' dynasty of Arakan who reigned between 788 and 957 A.D. Coins of this type are reported to have been found buried in the ground in various parts of Arakan. It has, on the obverse, a recumbent humped bull in a circle, to left, superscribed with a Nagari legend, consisting of four letters, which may be tentatively read as *Patikreya* (?), the reverse side contains the so-called trident symbol with garlands hanging from it, sun and crescent above, the whole inscribed in a circle.

- (2) A thin metal plate inscribed with nine lines of Arakanese writing (*undeciphered*).

The plate measures 18 inches in length and $2\frac{1}{4}$ inches in breadth and is a presentation by Mrs. D. Wilson to the Indian Museum, Archaeological Section. The plate is said to have been brought by the lady from Burma.

2. ASUTOSH MUSEUM OF INDIAN ART, CALCUTTA UNIVERSITY.

Śiva from Kesabpur, Dt. Barisal, Bengal.

Standing erect; two hands—right in the *varada* holds a rosary, left a vase; Śiva's trident is shown on the left side; crescent moon on the matted tiara, the third eye on forehead, *urdhhamedhra*—all distinctive cognizances of Śiva—as well as his bull and attendants including Gaṇeśa are carefully shown. But the chief point of interest is a seated *dhyanī* figure (Buddha) above the matted tiara—a clear resemblance with Buddhist Mahāyāna deities. The similarity in the conception of some forms of Avalokiteśvara with that of Śiva is striking. Such a *dhyanī* figure above the head of Viṣṇu is a more frequent occurrence in Bengal, where we may recognize Lokeśvara Viṣṇu, a not uncommon type of Viṣṇu icon. Studied along with that this image may be known as Lokeśvara-Śiva. (Cf. Śiva Buddha cult of Java.)

3. BANGIYA SAHITYA PARISAT.

A few old and interesting Manuscripts.

- (1) *Padmapurāṇa*—bhūmikhanda copied in 1594 Ś.E. (1672 A.D.).

- (2) *Bhaktiratnāvalī*—written on birch-bark.

- (3) *Udvāratattva*—written on birch-bark.

- (4) *Kālikāmāṅgala* of Siva Rāma Ghosa contains a hitherto-unknown version of the *Tales of Vikrama* (for detailed account *vide* Sahitya Parisat Patrika, Vol. 49 and Indian Historical Quarterly, XIX, pp. 65–7).

4. BOTANY DEPARTMENT, CALCUTTA UNIVERSITY.

The ancestry of the Mangoes and Bananas of India.

The probable manner in which the numerous varieties of the mango and the banana cultivated in different parts of India could have been produced from their wild ancestors, several species of which are found in the forests of India, is being studied at present in the Botany Laboratory of the Calcutta University with the help of a grant-in-aid from the Imperial Council of Agricultural Research.

The investigation is based on the knowledge that our cultivated varieties of plants, like all living organisms, have inherited a definite constitution from their parents, which is evidenced by the number and arrangement of the chromosomes (small rodlike bodies having special staining properties) found inside their body cells and reproductive cells. The transmission of characters from one generation to another depends normally upon the production of specialized germ cells and it is by the union of these cells, one from each parent, that the genes which determine the character of the plant are transmitted to the offspring. The chromosomes being the physical bearers of hereditary characters, it is possible to draw valid inferences regarding the mutual relationships of the cultivated varieties by comparison of their chromosomal complement with that of their probable ancestors.

As the chromosomes are very small a special technique has to be used to make them visible under the microscope. The exhibit shows some of these.

(1) *Wild relatives of mango (Mangifera indica Linn).*

The genus *Mangifera* includes more than 40 species, out of which 3 are found in India, 24 species occur in Malaya and the Dutch East Indies, and the rest are scattered in Eastern tropical Asia.

The fruits exhibited are those of *Mangifera sylvatica* Roxb. from Assam, *Mangifera caesia* Jack. and *Mangifera foetida* Lour from Malaya and Dutch East Indies. The fruits of *M. sylvatica* contain little flesh and as such are very inferior as a fruit. *M. caesia* and *M. foetida* are cultivated throughout Malayasia for their fruits, which are eaten by the natives, though their flesh is stringy and they have a bad odour.

The most important species, however, is *Mangifera indica*. This species is said to be wild in many parts of India, being generally found on the sides of ravines up to 4,000' in elevation and on the banks of streams. More than 500 distinct cultivated varieties have been enumerated.

(2) *Chromosome complex of the mango varieties (Mangifera indica Linn).*

All the cultivated varieties of *Mangifera indica* examined so far, and the allied wild species *M. sylvatica* Roxb. and *M. caloneura* Kz. have the same number of chromosomes ($2n = 40$). They differ from one another in minute structural details. The high number of chromosomes, the satellites, and the secondary constrictions indicate that they are polyploids, probably produced from ancestors with smaller number of chromosomes. A slide, showing the somatic chromosome complex of the variety *Langra*, has been exhibited.

(3) *Genetic constitution of edible bananas.*

Unlike the wild species of bananas, which are usually fertile and produce viable seeds and have a balanced chromosome complement, the edible bananas are sterile, being produced without fertilization. This is due to their unbalanced chromosome complement and the uneven number of chromosomes (33) in their body cells. This condition leads to irregular meiosis (reduction division) and the formation of gametes with varying number of chromosomes. The edible bananas are hybrids probably produced from parents having different chromosome numbers. The available evidence indicates that the edible varieties of bananas have been produced independently in the new and the old worlds.

A preparation showing an uneven number of chromosomes (33) in the root-tip cells of *Kanchhela*, a seedless variety, has been exhibited. Different varieties of banana differ with respect to minute structural details of the chromosomes. Drawings are shown for a comparison of the minute details of the somatic chromosomes of 4 seedless varieties (*Kanchhela*, *Martabankela*, *Champakela* and *Kabrikela*) and of 4 seeded types (*Musa rubra*, *M. superba*, *M. paradisiaca*, sub-sp. *Sapientum* and *Bichakela*), which have balanced chromosome complements.

5. PERCY BROWN.

- (1) *Miniature statuette in plaster, believed to have been the original model for the large bronze equestrian statue of Sir James Outram (in front of west-end of Park Street) by J. H. Foley, R.A., and considered to be this sculptor's masterpiece.*

(2) 'Panoramic Sketch' of Bengal Troops on the Line of March. Drawn in Lithographic Chalk by 'An Officer of That Army'.

The following is the description which accompanies the drawing :—

This hasty sketch put together on Boardship was originally undertaken as much for the purpose of breaking the monotony of a long sea voyage as to give to a numerous acquaintance at home a better idea of Troops moving in the East than the Designer could convey in conversations. Their favourable notice has induced him to publish it, in its original rough state, a 'Sketch' and nothing more. In the Upper Provinces of the Presidency of Fort William where the greatest portion of his fourteen years' service has been passed, the scenes and figures he has here attempted to depict have from time to time been put on paper.

The confusion of a Line of March in India, where camp followers so far exceed the number of fighting men—the number of elephants, camels, bullocks, buffaloes, mules and ponies requisite to carry the camp equipage, stores, supplies and baggage—the frequent breakdown of the fragile cart of the country and the upsets caused by restive cattle, would have afforded him ample matter for a drawing three times the length of the present sketch, had he not confined himself to the every-day occurrences incident to the movement of troops in the East, and of those occurrences, selecting only the most characteristic.

The opening of the sketch shows a Fakoor, or a religious enthusiast beating his drum; near to him is one of his idols and above him his flag; in the distance the outskirts of a town, and the husbandmen using buffaloes in their primitive ploughs. The camp comes next, with some of the kinds of tents used by officers and men, and an outline picket is waiting to form the Rear Guard.

It may not be generally known that, in the Upper Provinces of India, when troops are ordered out, every article of consumption must accompany the army or detachment moving, or for days together the numerous train would fare but badly if depending on the villages and small towns for supplies. Grain of all kinds, oxen, sheep, poultry, in fact almost everything that can be enumerated under the head of provisions, must be for purchase in the camp bazaars, or the troops would be in want. Next to the bazaar people, is the camp equipage (trunks, beds, etc.), as it is packed on elephants, camels and in carts.

The Express camel is much used in carrying despatches, for long distances, which they perform with little fatigue to themselves and riders; they average six miles, and will keep it up for many hours together over a sandy and heated soil, where the horse's strength would shortly fail him.

The female elephant in rear of the infantry is equipped as she would appear for a tiger shooting expedition. The one mounted by the General Officer is furnished with trappings usually worn.

A captured gun is seen between the Advance Guard and the main body of troops. It is not usual to bind prisoners of war, but the facilities of escape in jungles and countries intersected by ravines are so many that it is sometimes resorted to.

The enemy's outpost consisting of matchlockmen, bow and swordsmen, appears broken, and they are making off for their usual place of retreat, a hill fort. The swivel gun, mounted on the Dromedary, is still in use amongst the Native Powers; they load them with half a handful of small iron bullets, which are thrown to an inconsiderable distance. Shields are much in use amongst the Natives of India, as are also spears, and armour of various descriptions is worn by the Chieftains—others wear a quilted jacket which in many cases is sabreproof. Natives of rank use very gaudy trappings to their horses, most of which have their tails, and many their legs, dyed with brightest colours. The Fakours towards the end appear in the attitude of imprecation; they dwell, some in caves, some in huts, and some in temples, live mostly by exaction, and possess great influence over the minds of their countrymen, from the Prince to the Peasant.

6. DEPARTMENT OF FISHERIES, BENGAL.

(1) Benefits of manuring newly excavated or desilted tanks.

Owners of newly excavated or desilted tanks have often complained that the growth of fish in their tanks is very stunted and the fish are sickly. Usually an Indian fish-farmer leaves the tank alone for 3 to 4 years in order to allow it to become mature for fish farming. But if the beds of these very tanks were to be manured in the same way as an agriculturist manures a piece of cultivable land, the results for fish farming would be very encouraging.

Fishes grown in a desilted and partly newly excavated tank after manuring are exhibited.

- (i) Catla (4½") in 15 days from 1" fry.
- (ii) Catla (5½") and Rohoe (7½") in 1 month from 1-1½" fry.
- (iii) Catla (6½") in 1 month 15 days from 1" fry.

The fish have already attained a marketable size in about 5 months' time.

(2) Paddy cum Fish Culture.

(a) Hoarding in Bengali with the following instructions:—

- (i) It is very easy to grow fish in embanked paddy fields along with paddy cultivation. It does not entail additional labour or expenditure.

- (ii) One to two inches fingerlings of carps should be liberated in at least 9" depth of water in paddy fields after the transplantation of paddy in July-August. These fingerlings invariably grow to at least 9" in length before the paddy is harvested in January-February.
- (iii) These fish may fetch a good price even if marketed at this stage but it is more profitable to stock them in some tanks for further fattening.
- (iv) The fish is benefited by getting nourishment from insects, worms and weeds abundantly found in paddy fields and by getting a good run for exercise.
- (v) The paddy crop is benefited through manuring of the fields with the excreta of fishes, by an increased tillering action of plants and by the reduced weeding cost of the area.
- (vi) Paddy cultivation and fish culture in alternate seasons may bring great profit in an area which can be dewatered or re-watered at will.
- (b) Examples of growth of fish in paddy cum fish culture canals and tanks in 24-Parganas.
 - (i) Catla ($12\frac{1}{2}$ ") and Mrigal ($8\frac{1}{2}$ ") from Ghutiary Sarif in 4 months from 1" fry.
 - (ii) Catla (8") from Masjidbari in 1 month 25 days from 1" fry.
 - (iii) Rohee ($7\frac{1}{2}$ ") from Ghutiary Sharif in one month 16 days from $1\frac{1}{4}$ " fry.
 - (iv) Mrigal ($7\frac{1}{4}$ ") from Gosaba in 1 month 26 days from $1\frac{1}{4}$ " fry.

(3) *The South Indian Pearl Spot*, *Eetroplus suratensis*.

Though inhabitant of sea and brackish water, the Pearl Spot, in virtue of its size, hardness, bonelessness and palatability, has been reared in freshwater tanks where common carps may not thrive well. A few young examples of this species and the Far Eastern Gourami, *Ospromenus gourami*, were secured for cultural purposes from Madras in July, 1944, and reared in a small tank at Calcutta.

The Pearl Spot bred in December last. A few young and two adult fish are exhibited in an aquarium.

The Pearl Spot is a representative of a group of fish extensively found in Africa and for this reason has attracted the attention of zoogeographers for a long time. Its closest ally is found in Madagascar.

7. GEOLOGICAL SURVEY OF INDIA.

Pitchblende.

The occurrence of pitchblende, associated with uranium ochre and triplite at a mica mine near Singar (Gaya district), was first recorded from India by Sir T. H. Holland; the mineral occurred as nodules in mica-pegmatite.

The specimen exhibited was obtained by Dr. H. Crookshank from Bisundni beryl mine, Ajmer-Merwara.

It was reported that a mound or so of Uranium-ore was originally extracted. Much of this was taken away by onlookers who were struck by the beauty of the material.

The Uranium-ores occurred along with beryl in masses of Cleavelandite near the quartz core of a very large pegmatite. Judging from the remains seen by Dr. Crookshank the ore occurred as a large irregular mass and not as a series of small nodules as in Bihar. The ore mass was however nodular.

The cores of the nodules consist of Pitchblende (80.27% U_3O_8), and the outer shells consist of Gummite (red), Uranophane (orange—74.82% U_3O_8), and Autunite (pale lemon yellow—62.48% U_3O_8) in succession. There is also a purple mineral not yet determined but possibly Lepidolite.

Radium was first discovered from pitchblende or uraninite, which is the ore for uranium and radium. Uranium compounds are also used in chemistry, photography and medicines.

8. KENNETH HALL.

Aluminium in India.

Five operations are necessary to the manufacture of aluminium products for retail commercial sale or use by the general public. The exhibit contains small samples of the various materials and intermediate products which are involved in this manufacture, with photographs of some of the operations at plants of the Indian Aluminium Company, Ltd.

Bauxite is the raw material from which aluminium is produced. This is a soft ore of which India possesses ample resources in deposits in Bihar, the Central Provinces and Bombay Presidency. Mining operations are the first step in aluminium production. Photographs show mining activities at Belgaum Bauxite Mines. The sample of bauxite is from Lohardaga in Bihar.

The second step is the first actual manufacturing process consisting of the crushing, chemical treatment and calcining of the ore, whereby impurities such as silica, ferric oxide, etc. are eliminated and pure aluminium oxide or alumina is produced. The alumina on display is the material which will be produced at the ore plant at Muri Junction (B.-N. Railway) near Ranchi.

Alumina is transformed into metallic aluminium in a reduction plant, by the use of an electrolytic process in which electric current is passed through a bath of molten cryolite. Alumina is fed into this bath and reduced to aluminium and oxygen, the molten aluminium collecting at the bottom of the bath and being drawn off at intervals to be cast into ingots. The sample aluminium ingot exhibited is from the first aluminium to be made in India, and was produced on 6th March, 1943, at the Aluminium Reduction Works of Indian Aluminium Company, Ltd., in Travancore State. Since that date, these works have been in full commercial production of virgin aluminium ingot. The reduction process requires large amounts of electric power, and the availability of this power is a prime factor in the establishment of such a plant. In the case of the reduction works in Alwaye, power is supplied by the Travancore State Hydro-Electric System. In producing one pound of aluminium, approximately four pounds of bauxite, 3/4 pounds of carbon electrode and ten kilowatt-hours of electricity are consumed. The display shows small samples of green petroleum coke, calcined coke, unbaked paste and baked carbon electrode, alumina, cryolite and fluorspar, used in the process.

The fourth step in processing aluminium is rolling the virgin ingot into sheets, or extruding aluminium into various sections. The sample of aluminium sheet exhibited was rolled at the Belur Works of Indian Aluminium Company, Ltd., which have been in commercial operation since 1941, and which are at present engaged in rolling aluminium sheet for aircraft and other war requirements. Equipment is being installed in these works at present for the production of strong alloy sheets (duralumin). This sheet aluminium is shipped either as rectangular sheets or as cut circles.

Fabricating plants receive sheets and circles for manufacture into the final products with which the public are familiar. In peacetime the sheets of aluminium may be used in the manufacture of railway wagons, autobus bodies, trams, etc. The circles may be manufactured into cooking utensils which are well known in India. The large tank on display is known as a jettison tank attached to an airplane to carry extra supplies of petrol, and can be abandoned when empty. The newest development in production of cooking utensils is the addition of colour forming an integral part of the surface of the material. The jettison tank and cooking utensils exhibited are manufactured locally by Messrs. Aluminium Manufacturing Company, Ltd., and Messrs. Jeewanlal (1929) Limited, at Crown Aluminium Works.

India is now producing its own supplies of aluminium, and has ample resources of bauxite ore and of electric power. The return of peace, with increasing industrialization, will bring in its train the extensive use in this country of aluminium in the home, in transportation, in industry, and in architecture—in short, wherever a metal possessing strength with lightness and a pleasing finish can be effectively used.

9. M. M. HAQ.

(1) *Al-Aghrād al-Tibbiya* (an encyclopaedia of medical sciences).

This valuable manuscript bears the autograph notes of the Khān Khānān 'Abdur Raḥīm and of Faḥḥullāh, the famous physician of Akbar and Jahāngir.

(2) An *Album* of the specimens of Muslim calligraphy containing, among others, *waṣṭās* from the pens of Sharrīfī and Wiṣāl (two Persian poets), and a *waṣṭī* (dated 937/1530) in the rare *ta'liq* style.

(3) An *Album* of the specimens of *Naskh* and *Nasta'liq* styles of calligraphy.

10. ROYAL ASIATIC SOCIETY OF BENGAL.

I. Library.

A. General Section.—A few of the rare items in the Library for a study of the history of the growth of the British power in India.

(1) Ovington, J.: *Voyage to Surat* in the year, 1689. London, 1696.

(2) The Compleat History of Thamas Kuli Kan (at present called Schah Nadir), Sovereign of Persia. In two parts. London, 1742.

(3) Francklin, W.: *History of the Reign of Shah-Aulom*. London, 1798.

(4) Hollingberry, W.: *History of His Late Highness Nizam Alea Khaun, Soobah of the Dekhan*. Calcutta, 1805.

(5) Anderson, R. P.: *History of the Reign of Bahadur Shah being an English translation of Tarikh-i-Bahadur Shahi*. Calcutta, 1860. (Cuttings from the *Englishman*, 1860.)

(6) *Memoire pour le Sieur Dupleix, Contre la Compagnie des Indes, avec les pieces Justificatives*. Paris, 1759.

(7) *Reponse du Sieur Duploux a la Lettre du Sieur Godeheu*. Paris, 1763.

(8) *Memoire pour le Comte de Lally*. Paris, 1766.

(9) Holwell, J. Z.: *Interesting Historical Events relative to the Provinces of Bengal and the Empire of Hindostan*. London, 1766.

- (10) Holwell, J. Z: India Tracts. London, 1774.
- (11) Vansittart, H: Narrative of the Transactions in Bengal from the year 1760 to the year 1764. 3 vols. London, 1766.
- (12) Verelst, H: View of the Rise, Progress, and Present State of the English Government in Bengal. London, 1772.
- (13) Five Letters from a free merchant in Bengal to Warren Hastings, Esq., Governor-General of the Honorable East India Company's Settlements in Asia; conveying some free thoughts on the Probable Causes of the Decline of the Export Trade of that Kingdom; and a Rough Sketch, or Outlines of a Plan for restoring it to its former Splendour. Reprint, London, 1783.
- (14) Hastings, Warren: Narrative of the Insurrection which happened in the Zemedyary of Banaris in the month of August 1781, and of the Transactions of the Governor-General in that District; with an Appendix of Authentic Papers and Affidavits. Reprint, Roorkee, 1853.
- (15) Trial of Maharajah Nundocomar, Bahader, for forgery. Published by authority of the Supreme Court of Judicature in Bengal. London, 1766. (Autograph Copy of Sir Elijah Impey.)
- (16) Letter to Edmund Burke, Esq.; on the latter part of the late Report of the Select Committee on the state of justice in Bengal. London, 1782.
- (17) Debates of the House of Lords, on the Evidence delivered in the Trial of Warren Hastings, Esquire. London, 1796.
- (18) History of Trial of Warren Hastings, Esq., Late Governor-General of Bengal, before the High Court of Parliament in Westminster Hall. London, 1796.
- (19) Fullarton, W: View of the English Interests in India, and an account of the Military Operations in the southern parts of the Peninsula, during the campaigns of 1782, 1783 and 1784. London, 1787.
- (20) Memoirs of the late war in Asia with a narrative of the imprisonment and sufferings of our officers and soldiers: by an officer of Col. Baillie's Detachment. London, 1788. 2 vols.
- (21) Robertson, W: Historical Disquisition concerning the knowledge the Ancients had of India; and the Progress of Trade with that Country prior to the discovery of the passage to it by the Cape of Good Hope. London, 1791.
- (22) Proceedings of the Agents appointed by the Officers of the East India Company's Armies, on the establishments of Bengal and Madras, for the purpose of obtaining a redress of the grievances peculiar to that service. 1795.
- (23) Authentic Memoirs of Tipoo Sultan, including his cruel treatment of English Prisoners . . . with a preliminary sketch of the Life and Character of Hyder Ally Cawn. By an Officer in the East India Service. Calcutta, 1820.
- (24) British India Analyzed. The Provincial and Revenue Establishments of Tippoo Sultaun and of Muhammadan and British Conquerors of Hindostan. London, 1795. 3 parts.
- (25) Dirom: Narrative of the Campaign in India, which terminated the war with Tippoo Sultan, in 1792. London, 1793.
- (26) Salmond, J: Review of the Origin, Progress, and Result of the Decisive War with the Late Tippoo Sultaun, in Mysore. London, 1800.
- (27) Roebuck, T: Annals of the College of Fort William . . . Compiled from Official Records. Calcutta, 1819.
- (28) Historical View of Plans for the Government of British India and Regulations of Trade to the East Indies and outlines of a Plan of Foreign Government, of Commercial Oeconomy, and of Domestic Administration for the Asiatic Interests of Great Britain. London, 1793.

B. Sanskrit Section.—Some old and unique manuscripts.

- (1) Uhaṅāna (I.M. 9562): Country-made paper. Nāgarī. Samvat 1377/1319 A.D. Special interest attaches to the date of this manuscript, which appears to be the oldest copy of the work, now extant.
- (2) Śabda-prabheda of Maheśvara Kavi (I.M. 9656): Country-made paper. Nāgarī. Samvat 1553/1495 A.D. Maheśvara Kavi is said to be the author of *Sāhasāṅka-Carita*. Aufrecht does not mention this work.
- (3) Siddhāntasārakaustubha of Jagannātha (I.M. 1422): Country-made paper. Nāgarī. No date, c. 18th century A.D. A translation of Almagest which is a collection of problems in Geometry and Astronomy drawn up by Ptolemy.
- (4) Rekḥaṅgaṇita of Jagannātha (I.M. 1425): Country-made paper. Nāgarī. No date, c. 18th century A.D. A treatise on Geometry. Jagannātha wrote the above two works for Jayasinha in 1730.
- (5) No title—a work on Vyākaraṇa (I.M. 3438): Country-made paper. Nāgarī. No date, c. 18th-19th century A.D. A manual of Sanskrit Grammar with copious Persian notes in Devanāgarī character.

(6) Rasadīpikā of Ānandānubhāva Yogin (I.M. 3622): Country-made paper. Nāgarī. Saṃvat 1462/1404 A.D.

An important work of Hindu chemistry and medicine, copies of which are extremely rare. Only two other copies are known, both of them undated and apparently not very old. The author is perhaps the same as Ānanda, the Naiyāyika or Ānanda, the Vaidya, who flourished about the first-half of the 12th century A.D.

(7) Madanavinoda-nighaṇṭu (I.M. 3536): Country-made paper. Nāgarī. Saṃvat 1528/1470 A.D.

A well-known medical dictionary compiled under the patronage of Madanapāla in 1375 A.D. This copy dated within 100 years of the date of composition is of immense importance.

(8) Kālejñāna (I.M. 4441): Country-made paper. Nāgarī. Saṃvat 1606/1548 A.D.

A very good and rare work on Vaidyaka. The manuscript was copied at Thāneśvara during the reign of Salim Shah, probably Islam Shah, son of Sher Shah.

(9) No title—a work on Vaidyaka (I.M. 5372): Country-made paper. Nāgarī. Saṃvat 1653/1595 A.D.

A number of prescriptions from Tantrik sources for various maladies.

(10) Viṣṇupurāṇa, books I–IV (I.M. 6685): Country-made paper. Nāgarī. No date, c. 13th century A.D.

Perhaps the oldest manuscript of the Viṣṇupurāṇa the present copy gives much better readings. The script of the manuscript exactly corresponds to that of an inscription dated Saṃvat 1265/1207 A.D., as given in *Bhāratiya Prācīna Lipimālā* by G. H. Ojha.

(11) Vāsīṣṭha Liṅgapurāṇa (I.M. 1734): Country-made paper. Nāgarī. Śāka 1476/1554 A.D.

This is a copy originally belonging to the reputed collection of Sanskrit Manuscripts of Sarvaśāstrīnīdhāna Kavindrācārya Sarasvatī, a great Sanyāsi leader of the Hindu community, who was held in high esteem in the Durbar of Shahjahan. The only manuscript of the Purāṇa, known to Aufrecht, was Burnell's copy at Tanjore.

(12) Viśvādārśa of Kavikaṇṭhasarasvatī (I.M. 5928): Country-made paper. Nāgarī. No date, c. 16th–17th century A.D.

A comprehensive work on *Smṛti* in verse it is divided into *Ācārakāṇḍa*, *Vyavahārakāṇḍa* and *Prāyaścittakāṇḍa*. It is quoted by Hemādri.

(13) Nirṇayatattva or Prathita Tithivicāra of Nāgadeva Daivavid (I.M. 3005): Country-made paper. Nāgarī. Saṃvat 1821/1763 A.D.

A good little work on *Tithi* in about 100 verses it is based on *Nirṇayasindhu*. It refers to the customs of the Deccan. The manuscript was copied for Govinda Pantha, who might be the famous Mahratta General of the same name, who fought in the third battle of Panipat.

(14) An interesting manuscript (I.M. 5674) in Devanāgarī containing a collection of opinions on certain disputed points of Hindu Law, among which there is one put to the Professor of *Dharmaśāstra* of a college (*Pāṭha-śālā*) by 'Galandara Saheba'—the Principal of the College. No date, c. early 19th century A.D.

(15) Another interesting manuscript (I.M. 4931) of a work on *Smṛti* giving its decisions on many disputed points. Among others, it advocates the validity of the remarriage of a girl taken away by force and married, or given in marriage by her parents to an undesirable person. No date, c. 18th century A.D.

(16) Durgotsava-paddhati of Udayasimha (I.M. 6445): Country-made paper. Nāgarī. No date, c. 16th century A.D.

It is a work of great interest throwing a new light on Durgā liturgy. The military features of the festival, which have been omitted from all other *paddhatis* handed down to us, have been fully dealt with in this work by Udayasimha.

(17) Tattvāloka of Janārdana (I.M. 849): Country-made paper. Nāgarī. Saṃvat 1490/1432 A.D.

It is a work of great importance where the *Nyāya* system is criticized from the viewpoint of *Sāriraka-mahābhāṣya*. Only two other copies of the work were known to Aufrecht.

(18) Navinamata-vicāra of Hariṛāma Tarkavāgīśa (I.M. 586): Country-made paper. Nāgarī. No date, c. 18th century A.D.

The author was one of the 17th century celebrities of Bengal who made the name of Navadvīpa respected throughout India. He was the preceptor of Gadādhara, whose works, under the name of *Gādādhari*, are read all over India.

(19) Bhedasiddhi of Viśvanātha Nyāyapañcānana (I.M. 190): Country-made paper. Nāgarī. No date, c. 18th century A.D.

This work by the celebrated author of the *Bhāṣā-paricheḍa* is unknown to Aufrecht. It is a defence of the dualistic view of *Nyāya* against the non-dualistic *Vedānta*.

(20) Bhāvārthamālā of Nyāyavācaspati (I.M. 6754): Country-made paper. Nāgarī. No date, c. 18th century A.D.

The author, Nyāyavācaspati, is the son of Vidyānīvāsa, who is said to have been honoured by the ruler of Gauḍa, possibly Mānasimha. One of his works, *Bhāvanīlāsa*, is stated to have been written in honour of Bhāvasimha, son of Mānasimha.

C. *Islamic Section.*—Some rare and unique works.*Arabic.*1. *Kharīdat al-Qaṣr* (351—I):

An anthology of contemporary poets by 'Imād ad-Dīn al-Kātib al-Isfahānī (died 1201 A.D.) this work occupies a very important place in Arabic literature. It includes, with the exception of a few poets, the names of all the poets of 'Irāq, Syria, Mesopotamia, Egypt, North Africa, Spain and Sicily, who flourished between the years A.D. 1106 and 1176. Though copies of the work are found in European Libraries, they are only in fragments.

Copied in Naskh of the 12th century A.D.

The present copy is most important as it is the original draft of the author.

2. *Tuḥfat al-Aḥbār fī Uṣūl al-Ḥadīth wa'l Akḥbār* (1084—III):

An entirely unknown work on the science of Ḥadīth by al-Ḥāfiz 'Abūl Maḥāḥir 'Abdu'l-lah bin 'Abd ar-Raḥmān bin 'Abd al-Latif al-Husāfī al-Wā'iz. The work was composed in A.H. 830/1426 A.D. and the manner of treatment is methodical, scholarly and original.

Copied in very fine Naskh by 'Abd ar-Raḥmān al-Bahrāmī ash Shīrāzī about the 15th century A.D.

No other copy of this important work is known so far to exist.

3. *Al-Kashshāf 'An Haqā'iqi't-Tanzil* (58):

A commentary on Qur'ān by Abū'l-Qāsim Jāru'l-lah Maḥmūd bin 'Umar bin Muḥammad az-Zamakhsharī (died 1143 A.D.). It deals with Sūras 19—39.

Copied in Khorasani Naskh in A.H. 684/1285 A.D.

4. *Tabaqāt ash-Shāfi'iyat al-Wastā* (1334):

A biographical work on Shāfi'i scholars by Tāj ad-Dīn Abū Naṣr 'Abd al-Waḥhāb bin 'Alī 'Abd al-Kāff as-Subkī (died 1370 A.D.). The author was highly learned, specially in the Shāfi'ite school of Law, on which he became an authority.

Copied in old Naskh in A.H. 865/1460-61 A.D.

5. *Tadhkirat uli'l-Albāb bi Ma'rifat al-Ādāb* (1259):

A work on modes of behaviour and on the hygienic principles with regard to eating, sleeping, bathing, etc. by 'Abd ar-Ra'ūf bin Tāj al-'Arifin al-Munāwī (died 1622 A.D.).

Copied in Nasta'liq by Muḥammad in A.H. 1066/1655-56 A.D.

6. *Ar-Risālatu-fī Sanati'l-Uṣṭurlāb* (A. 1481):

A treatise by the well-known Muslim astronomer and Indologist, Al-Bīrūnī (died 1039 A.D.), on the construction and uses of *Astrolābe*.

Copied in Nasta'liq with diagrams about the 17th century A.D.

7. *Tahrīr Uqlidis* (1489):

The well-known *Elements of Euclid* according to the edition of Naṣīr ad-Dīn at-Ṭūsī (died 1274 A.D.).

Copied in semi-Naskh within gold-coloured borders with ornamented 'unwān about the 16th century A.D. Contains many fine diagrams.

*Persian.*1. *Ān-i-Akbarī* (128):

The celebrated work of Abū'l Faḍl.

Written in Nasta'liq within gold-ruled borders about the 18th century A.D. The copy contains illustrations of the arms and ornaments of the time.

2. *Akbar Nāmāh* (26 C.C.):

The famous work by Abū'l Faḍl.

Written in bold Nasta'liq within gold and coloured ruled borders with decorated 'unwān about the 18th century A.D.

3. *Mathnawī-i-Mawlawī* (207 C.C.):

The famous mystical Mathnawī of Jalālu'd Dīn Muḥammad bin Muḥammad Bahā'id-Dīn Rūmī.

Written by Mahrāmī within gold and coloured ruled borders, four columns, with a beautifully decorated 'unwān at the beginning in A.H. 909/1581 A.D.

4. *Futūḥu'l Ḥaramayn* (655):

A versified description of the places of pilgrimage at Mecca and Medina by Muḥyī Lārī (died 1526-27 A.D.).

Written in Nasta'liq within coloured ruled borders with 'unwān about the 18th century A.D. The copy contains several illustrations.

5. *Zij-i-Jadīd-i-Sultānī* (1485):

Astronomical Tables of Ulūgh Beg, grandson of Tīmūr, compiled with the assistance of Ṣalāḥu'd-Dīn Mūsā and others.

Written in Nasta'liq about the 18th century A.D. It contains some illustrations.

6. *Ṣaḥā'if-i-Sharā'if* or *Duraru'l-Manṣūr* (1245—III):

Biographical sketches of Persian prose-writers of India and Irān by Muḥammad 'Askari al-Ḥusainī Bilgrāmī. The *Ṣaḥā'if* was composed in A.H. 1213/1815-16 A.D. The work contains valuable data regarding the Persian prose-writers in general and contemporary Indian writers in particular. There are several interesting specimens of the compositions of the Mughal kings, princes and princesses.

Written in Nasta'liq about the beginning of the 19th century A.D. The present manuscript is the autograph copy of the author. No other copy is known to exist in any other Library.

7. *Diwān-i-Anwarī* (451):

Poems of Aḥadu'd-Dīn 'Alī Anwarī, a court poet of Sinjar, the Saljuqidi (A.H. 511-552/1118-1157 A.D.).

Written in Khorasani Nasta'liq within gold and coloured ruled borders with an ornamented '*unwān*' by Muḥammad Qazwīnī Jūsaqī in A.H. 1008/1599 A.D.

8. *Jauharu'dh-Dhāt* (483):

A mystical Mathnawī poem by Farīdu'd-Dīn 'Abū Ḥamid Muḥammad bin 'Abū Bakr Ibrāhīm an Nishābūrī, surnamed 'Attār (died 1221 A.D.).

Written in calligraphic Nasta'liq within gold and coloured borders with good ornamented '*unwān*' about the 17th century A.D.

II. *Publications in 1944.*

(1) Journal:

(a) Letters, (b) Science, (c) Year-Book.

(2) Memoirs:

Mahāvvyutpatti, Part III.

(3) Bibliotheca Indica:

(a) Vajjālaggam, (b) Kuṭṭanīmatam, (c) Padmāvati.

ANNUAL REPORT FOR 1944.

The Council of the Royal Asiatic Society of Bengal have the honour to submit the following report on the state of the Society's affairs during the year ending 31st December, 1944.

160th Anniversary.

The 160th Anniversary of the Society was celebrated on 3rd February, 1944, when Prof. A. V. Hill, F.R.S., M.P., Honorary Secretary of the Royal Society, London, gave an illuminating address on the 'Royal Society'. At its conclusion congratulatory messages from learned societies of India, Burma, China and Ceylon, and from distinguished personalities were read.

In commemoration of the 160th Anniversary, three outstanding scholars were elected as Special Anniversary Honorary Members.

Social Function.

In connection with the 160th Anniversary celebration, prior to the Commemoration lecture given by Prof. A. V. Hill, F.R.S., a Tea party was held on 3rd February to meet the distinguished speaker and other guests. The expenses of the party given to the guests were kindly borne by Dr. Muhammad Ishaque, M.A., Ph.D., a member of the Council, who was thanked for his generosity by the Council.

Patronage.

His Excellency The Rt. Hon'ble Richard Gardiner Casey, C.H., D.S.O., M.C., Governor of Bengal, has been graciously pleased to become a Patron of the Society.

Ordinary Members.

Gains and Losses.

<i>Gains.</i>			<i>Losses.</i>		
Elections carried forward ..	..	3	Lapses of elections ..	..	4
New elections ..	..	106	Elections carried over ..	..	8
			Withdrawals of application ..	..	2
			Deaths ..	..	8
			Resignations ..	..	7
			Rule 38 ..	..	6
			Rule 40 ..	..	3
TOTAL ..	109		TOTAL ..	38	

Initial total 412; net gain 71; final total 483.

Life Members.—The number at the end of the year is 61. One died, and four members compounded.

Deaths.

Dr. W. A. K. Christie (L.M. 1907).	Siva Prasad Gupta (1919).
Sir P. C. Ray (1890).	D. E. W. Blaikie (1944).
Bahadur Singh Singhi (1912).	Seth Drucquer (1944).
Lt.-Col. O. Berkeley-Hill (1936).	Dr. E. L. G. Clegg (1944).

The Society recorded with sincere regret the death of Acharya Prafulla Chandra Ray, Kt., C.I.E., recipient of the Sir William Jones Medal and one of the seniormost members and Ordinary Fellows of the Society; and of Dr. W. A. K. Christie, one of its past Presidents, General and Sectional Secretary for many years and another of the most senior of the Ordinary Fellows and Life Members.

The Council also recorded with deep regret the demise of the Hon'ble Dr. Sir Baron Jayatilaka, Kt., who was elected a Special Anniversary Honorary Member on the occasion of the commemoration of the 160th Anniversary of the foundation of the Society.

The Society and the scholarly world are the poorer owing to the death of these distinguished men of science and culture.

Associate Members.

The following two new Associate Members were elected during the year:—

1. Basanta Ranjan Ray.
2. Rev. F. A. Peter.

At the end of the year the number stands at 8; the statutory maximum is 15.

Ordinary Fellows.

At the Annual Meeting held on the 7th February, 1944, Dr. Girindrasekhar Bose was elected an Ordinary Fellow.

Sir P. C. Ray (1912) and Dr. W. A. K. Christie (1919) have died.

At the end of the year the number stands at 46; the statutory maximum is 50.

Honorary Fellows.

During the year no scholars were newly elected Honorary Fellows and the following two distinguished Fellows died:—

1. Sir David Prain (1920).
2. Dr. Heinrich Lueders (1939).

The number at the end of the year stands at 14; the statutory maximum is 30.

Special Anniversary Honorary Members.

During the commemoration of the 160th Anniversary of the foundation of the Society, the following distinguished scholars were elected Special Anniversary Honorary Members:—

1. Prof. A. V. Hill, F.R.S., M.P., Nobel Laureate, Secretary of the Royal Society, London.
2. The Hon'ble Dr. Sir Baron Jayatilaka, Kt., K.B.E., LL.D., M.A. (Oxon), Barrister-at-Law, Representative of the Government of Ceylon in India.
3. Dr. F. K. Li, Ph.D., Fellow, Academia Sinica, Chungking, China.

The Hon'ble Dr. Sir Baron Jayatilaka died during the year.

At the close of the year there remain only 10 Special Anniversary Members on the roll.

Institutional Members.

During the year the following two new institutions were admitted to this class of membership:—

1. Calcutta University Library.
2. Gaudiya Mission, Calcutta.

Their total number at the close of the year is 14.

Council.

The Council met 12 times during the year, the attendance averaged 11.

Committees of Council.

The Standing Committees of Council, namely, the Finance, Publication and Library Committees, met monthly. A special meeting of the Finance Committee was held in December to consider the Budget for 1945. The Bibliotheca Indica Committee met four times during the year.

The following Sub-Committees were appointed.—

Two permanent Advisory Boards—Scientific and Cultural—were constituted with powers to formulate Post-war Reconstruction schemes relating to Science and Culture. Such schemes, after due scrutiny by the Boards, are placed before the Council for their approval, and in due course forwarded to the proper authorities for necessary action.

Office.

Some changes have been effected during the year with regard to the accommodation of the office staff. The Librarian's room has been shifted to the southern side of the hall, and the office has been removed to the western side of the main hall. The members' reading room is now in the central room on the south of the building, where members and research scholars can work without being disturbed by the noise of typewriters, etc.

Staff.—Towards the close of the year, Mr. Siva Sanker Mitra, M.A., cataloguer, resigned, and Mr. D. L. Banerjee, B.A., with a certificate of Training in Librarianship, was appointed for one year in his place with effect from January, 1945, on Rs.100 with the dearness allowance of Rs.15 p.m.; Mr. P. C. Pal, M.A., who was working, since November, temporarily to arrange old records, files and archives of the Society, was appointed for another year from December on a salary of Rs.75 with dearness allowance of Rs.15 p.m.

During the year 123 meetings were held in the Society's Rooms. These were Monthly General Meetings, General Lectures, Council and Discussion Meetings, and meetings of various Boards and Standing Committees of the Society. In addition, arrangements had to be made on various occasions for meetings in the Society's hall of outside bodies. The administrative work in connection with all these matters was exceptionally heavy.

Consequent on applications made by certain members of staff for increase and higher grades of pay, the Council in its December meeting appointed a Board consisting of the Hon'ble Mr. Justice N. G. A. Edgley, Messrs. K. P. Khaitan,

W. D. West, N. Dutt and the General Secretary as members, to consider the pay and the conditions of service of the staff, to review their duties and to make such recommendations as appear necessary. This Board will meet in due course.

Subordinate Staff.—Certain minor changes were effected in connection with the subordinate staff, including the termination of the services of Duftry Nawab Jan and bearer Moinuddin with effect from November.

It may be recorded that, on the whole, the work of the staff was satisfactory.

Correspondence.

In spite of the war and curtailed activities of many offices in India and abroad, the number of letters received during the year was 2,117 and those issued were 2,885. In addition, during the year 190 Council, Committee and Board circulars were issued. Correspondence, as in the year before, engaged a considerable portion of the time of the office. Proposals dealing with post-war reconstruction, and now under submission by the Society, made heavy demands on the correspondence section.

Stock Room.

A complete stock-taking of the Society's publications for sale was made in December.

Rules and Regulations.

No changes were made in the Rules, but some additions were made to the Regulations regarding the Library with special reference to its administration. Regulations were adopted by the Council for the award of the newly instituted Rai Bahadur Sarat Chandra Roy Memorial Medal for Cultural Anthropology.

Representations.

Indian Museum.—The Society's representative on the Board of Trustees of the Indian Museum, under the Indian Museum Act X of 1910, continued during the greater part of the year to be Dr. J. N. Mukherjee; later, Mr. K. P. Khaitan undertook this duty.

Kamala Lectureship.—The Society's nominee to serve on the Selection Committee of the Kamala Lectureship, administered by the Calcutta University, was Dr. R. C. Majumdar.

National Institute of Sciences of India.—The Society's representatives to serve on the Council of the National Institute of Sciences of India for 1944 were Dr. W. D. West as Vice-President and Dr. D. M. Bose as Member.

Sarojini Bose Gold Medal.—The Society's nominee to serve on the Special Committee for the award of the medal administered by the Calcutta University was Dr. Bimala Churn Law.

Royal Asiatic Society of Great Britain and Ireland.—The Society's nominee for the Corresponding Fellowship of the Royal Asiatic Society of Great Britain and Ireland was Dr. S. K. Chatterji.

Indian Historical Records Commission.—The Society's representative to serve on the Commission was Mr. C. W. Gurner.

The Selection Committee for the appointment of Asutosh Professor of Mediaeval and Modern Indian History of the Calcutta University.—The Society's nominee to serve on the Selection Committee was Dr. R. C. Majumdar.

Advisory Board of Archaeology in India.—During the year, a communication was received from the Government of India, Department of Education, Health and Lands, New Delhi, informing the Society that it has been selected a member of the newly constituted Advisory Board of Archaeology in India. In terms of their requirement, the Council have nominated the Hon'ble Mr. Justice N. G. A. Edgley to represent the Society and to serve on the Board.

Deputations.

The Society has received invitations to send representatives to the following :—

The Silver Jubilee Special Convocation of the Patna University. Dr. S. P. Mookerjee was nominated to represent the Society.

The 6th All-India Library Conference at Jaipur. Khan Bahadur K. M. Asadullah was nominated to represent the Society.

The 7th Session of the Indian History Congress in Madras. Dr. R. C. Majumdar was nominated to represent the Society.

Awards.

Elliott Prize for Scientific Research.—No award was made for 1943 as the papers submitted by the candidates were not of sufficient merit.

The annual prize for 1944 will be announced at the Annual Meeting in 1945.

Barclay Memorial Medal.—The biennial award of the medal for conspicuously important contributions to Medical and Biological Science with reference to India, for 1943, was announced at the Annual Meeting in 1944. The medal was awarded to Sir Upendra Nath Brahmachari, Kt.

The next award of the medal will be made at the Annual Meeting in 1946.

Sir William Jones Memorial Medal.—The triennial award of the medal for conspicuously important Asiatic Researches in Philosophy, Literature and History, for 1943, was announced at the Annual Meeting in 1944. The medal was awarded to Sir Sarvapalli Radhakrishnan, Kt.

The next award of the medal will be made at the Annual Meeting in 1947.

Annandale Memorial Medal.—The next (triennial) award of the medal for important contributions to the study of Anthropology in Asia will be made at the Annual Meeting in 1946.

Joy Gobind Law Memorial Medal.—The triennial award of the medal for 1944 for conspicuously important work in Zoology in Asia will be made at the Annual Meeting in 1945.

Paul Johannes Brühl Memorial Medal.—The triennial award of the medal for 1944 for important contributions to the study of Asiatic Botany will be made at the Annual Meeting in 1945.

Indian Science Congress, Calcutta Prize.—The award of the prize in connection with the session of the Congress, held in Calcutta in 1943, was announced at the Annual Meeting in 1944. The medal was awarded to Prof. S. P. Agharkar, M.A., Ph.D., F.N.I., for the important services rendered by him to the Indian Science Congress Association as its General Secretary from 1924 to 1935.

Pramatha Nath Bose Memorial Medal.—The first and initial award of the medal for conspicuously important contributions to practical and theoretical Geology with special reference to Asia for 1943 was announced at the Annual Meeting in 1944. The medal was awarded to Sir Lewis L. Fermor, Kt., F.R.S., in recognition of his conspicuously important researches on the Archaean rocks of India.

Dr. Bimala Churn Law Gold Medal.—The first and initial award of the medal for conspicuously important contributions to any one of the following subjects—History, Geography, Philosophy, Religions, Ethnology, Folklore, Fine Arts and Architecture, with special reference to India from the earliest time down to the thirteenth century A.D., and to Bengali language, literature and philology—was announced at the Annual Meeting in 1944. The medal was awarded to Prof. Suniti Kumar Chatterjee, M.A., D.Lit., F.R.A.S.B., for his conspicuously important contributions to the Bengali language, literature and philology.

The next annual award of the medal will be made at the Annual Meeting in 1945.

Sarat Chandra Roy Memorial Medal.—Mrs. S. C. Roy has made a donation of Rs.4,000 for the institution of a gold medal to be bestowed annually on a person who is considered to have written the most outstanding book or monograph on any

aspect of the Cultural Anthropology of India in the English language, failing that in the Bengali language. She has given also Rs.250 to meet the cost of the first and initial award of the medal to be made at the Annual Meeting in 1945. The Council in accepting the donation have framed certain Regulations, in terms of which the first award will be made at the Annual Meeting in 1945.

Library.

The year 1944 witnessed a further progress in the re-organization of the Library.

The scheme of classification and cataloguing in the General Section introduced last year was steadily pursued and 7,337 volumes were dealt with by the end of December, 1944. In the Sanskrit Section nearly 13,000 manuscripts, belonging to the Indian Museum collection and the Society's collection, were briefly catalogued on slips according to the plan drawn up last year. It has been decided to publish a summary catalogue of the Indian Museum collection of manuscripts from these slips, and the work is in progress. There is also a proposal for preparing a full descriptive catalogue of the Rajasthani manuscripts in the possession of the Society. For this purpose, our Life Member Mr. G. D. Birla has promised a donation of Rs.5,000, but the work has to wait until the manuscripts, sent out on account of emergency conditions in Calcutta, are returned. The Burmese manuscripts were also examined by an officer of the Burma Government and negotiations are in progress for preparing a catalogue of these manuscripts by a Burmese scholar. In the Islamic Section the scheme of a brief catalogue of nearly 1,500 undescribed manuscripts has been adopted. The plan of re-organization was further extended to include the Sino-Tibetan Section, and the cataloguing of the Bstan-gyur collection was also undertaken, 704 works of which have been already completed. The plan thus comprises all sections of the Library, and it is satisfactory to report that at the present rate of progress the entire collection of books and manuscripts of all kinds in the possession of the Society will readily be available by a reference to the catalogue.

Certain important measures were undertaken this year to safeguard, as far as possible, the contents of the Library. The stock of the Library, distributed over the entire building both upstairs and downstairs, was assembled, for the want of a centralized one-way stock room, in several rooms, which were safeguarded by the provision of doors and wire-netting. The collection of Library books from different places involved the removal and re-erection of a number of racks, covering a linear space of approximately 750 feet, and a consequent dislocation and rearrangement of a large portion of the total stock. The Librarian's office and the Members' Reading Room were also removed to the wing, south of the main hall, which was similarly provided with doors and wire-netting, and rare books and reference works were stored here. As a result of these measures the major portion of the contents of the Library were displaced, and accordingly a rearrangement of the downstairs collection was taken in hand and completed during the year. It is proposed to arrange for a complete overhaul of the Library to be undertaken when the books and manuscripts are brought back from outside.

The disposition of the periodicals and serial publications, as will appear from Circular No. 160, dated 15-12-43, was not what it should be in a properly constituted Library. An arrangement of these in correct order has been undertaken and is still in progress. About 150 periodicals and serial publications were arranged during the year amounting to approximately 6,000 volumes.

A comprehensive scheme for the repair and preservation of the manuscripts and books in the Library was drawn up last year. The Government of India has sanctioned an additional grant of Rs.5,200, for one year in the first instance, as a Government contribution for this purpose. The scheme has been partially in operation during the year, but the full working has not been possible for reasons specified in the Librarian's note to the Library Committee, dated 5-9-44. With difficulty the essential chemicals have been procured and two fumigation chambers put into working order. Sterilization and fumigation have been in progress, but lamination has been delayed for want of a good paste. An application has been

made to the Government of India, and to the Civil Supplies and Rationing Departments, Government of Bengal, in order to obtain the fine quality of flour necessary for the manufacture of dextrine paste prepared by the Bengal Chemical and Pharmaceutical Works, Calcutta.

Altogether 940 old and deteriorated volumes were repaired and bound during the year as against 778 in 1943. A large number of old and rare books still remain to be bound and strengthened. In view of the scarcity of binding materials and corresponding rise in the cost of binding, an increased grant of money on this account is indicated. A proposal for a binding branch of the Society for ordinary work of this nature had to be postponed, some of the indispensable binding implements being not available or available only at an exorbitant cost.

The filling up of notable gaps in the collections of books in specialized subjects has received particular attention, and it is gratifying to record that in spite of difficulties in procuring works of this type at least 70 second-hand copies of rare and valuable publications were acquired during the year.

Improvements have also been effected during the year in the maintenance of the records and files of the Library.

Accessions.—The records of the last few years, as the following table will show, indicate a steady decline in the number of acquisitions to the Library and efforts are being made since November, 1943, to improve the position in this respect:—

	Gen. Sec.	Sans. Sec.	Isl. Sec.	Total.	Amount spent.			Budget Estimate
					Rs.	A.	P.	Rs.
1940	296	94	24	414	1,276	1	9	3,000
1941	156	130	16	302	999	11	6	2,000
1942	132	17	1	150	626	5	6	1,000
1943	242	57	3	302	727	1	0	1,500
1944	469	241	48	758	1,926	9	3	2,000

Exclusive of periodicals the total number of accessions to the Library in all its sections, by purchase, presentation, exchange and review, is 758, perhaps a record figure as the available records would show. Three new manuscripts were also added to the Islamic Section by purchase. In the last four years (1940-43) a sum of Rs.3,870-12-3, out of Rs.7,500 allotted for book purchase, was not expended and allowed to lapse. It is a matter for satisfaction that nearly the whole of the amount intended for this purpose has this year been utilized.

Exchanges.—Only two journals have been added to the Library by exchange. They are (1) Harvard Journal of Asiatic Studies with retrospective effect from 1936, and (2) Bulletin of the Rama Varma Research Institute with effect from 1944. Exchange relations have however been established during the year between (1) the Kabul Academy, Kabul, (2) the Vangiya Sahitya Parishat, Calcutta, and (3) the Calcutta University. The number of accessions to the Library in consequence amount to 38, 131 and 183 respectively.

Reviews.—Fourteen volumes were added to the Library during the year as presentations under this head. The subject of speeding up the preparation of reviews in arrears was taken up and some improvement was effected in this direction. Of the 62 volumes received for review from September, 1939 to December, 1942, 43 reviews were outstanding in August, 1943, when the present Librarian took charge. Subsequently 43 were added with 23 received during 1943 and 1944, making a total of 66, of which 39 reviews had been obtained during the period from August, 1943 to December, 1944.

Bulletins.—The system of issuing classified bulletins for accessions to the Library was continued and twelve monthly bulletins and one consolidated for the year 1943 were issued during 1944. It is proposed to issue the consolidated bulletin for 1944 during January, 1945. The bulletins have proved useful to members and it is desirable that the annual bulletin should be printed and circulated to members in order that they be informed with regard to the recent acquisitions to the Library.

Loans.—Considerable use is being made of the Library, as the result of increased facilities due to its re-organization. In the General Section 899 volumes were lent out during 1944, the number being practically the same as in 1943, which recorded a distinct improvement over the previous years' figures. Issues of books for use within the Society numbered 1,262 in the General Section, i.e. more than double of the last year's figure.

In the Sanskrit Section the number of books lent out was 141 as against 116 in the last year. Manuscripts lent out numbered 15 as against 8 of the last year, and many such requisitions could not be met with on account of the manuscripts in question having been removed for reasons of safety. Books and manuscripts used within the rooms of the Society totalled 348 and 152 respectively as against 184 and 135 of the last year.

In the Islamic Section, however, the year records a fall in the number of books lent out, being 40 only as against 93 of the last year. Only two manuscripts were lent out as against 1 of 1943, and books and manuscripts used within the Society numbered 94 and 24 respectively as against 95 and 22 of the last year.

Overdue books.—Reminders were issued regularly for overdue books and arrangements have been made for collecting books from members' residences by Society's peons. As a result a fair number of books, remaining out for a long time, have been returned. Members should kindly note that according to No. 12 of the Library Regulations, as amended, an extension of the loan is allowed for one month only after the period of three months has elapsed.

Exhibitions.—Two exhibitions were organized during the year, one to commemorate the 160th year of the Society, and the other on the occasion of the visit of the new Director-General of Archaeology in India. Illustrative of the rich resources of the Library for the purposes of research and advanced studies the exhibitions were much appreciated by members and visitors alike. Detailed communications regarding rare and valuable manuscripts in the different collections of the Library were also made at the monthly meetings, the number of such manuscripts amounting to 21.

Microfilming.—Several requests for the supply of microfilm copies of manuscripts and books in the Library have been received, including one from the Library of Congress, Washington, for a copy of the Journal of the Astronomical Society of India, and another from the Director of National Museums, Ceylon, for copies of Sinhalese manuscripts in the Society's Library. Arrangements for copying have been made with the Indian Statistical Institute, Presidency College, Calcutta, where the Photostat Camera of the Society is now installed.

Permanent Library Endowment Fund.—The total amount now to the credit of this fund is Rs.18,694-7-8.

The above will no doubt indicate a decided improvement in the working of the Library in all its aspects, and if the Society is to do justice to its rich and varied collections every effort must be made to carry the plan of re-organization to a satisfactory conclusion.

Finances.

Appendix III contains the Statements showing the accounts for 1944. No change has been made in the form of their presentation.

During the year Rs.3,156 were received as admission fees and Rs.1,760 as compounding fees.

The Government of Bengal maintained the 20% cut in some of the grants made by them to the Society.

The Government of India maintained the 50% cut in the grant for the Arabic and Persian MSS. Fund (Statement No. 5).

The Government of India made during the year a non-recurring grant of Rs.5,200 towards the Library Fund for the preservation of books and MSS.

Government securities (3% Defence Loan and Victory Loan) to the extent of Rs.34,000 have been purchased during the year.

The Government securities, shown in Statement No. 24, are held in safe custody by the Imperial Bank of India, Park St. Branch. During the year there was an appreciation of the securities, thus increasing the book assets of the Society.

BUDGET ESTIMATE FOR 1945.

Ordinary Receipts.

	Budget estimate for 1944.	Actuals for 1944.	Budget estimate for 1945.
	Rs.	Rs.	Rs.
Interest on Investments and Deposits	9,900	10,000	10,280
	450	450	450
Advertising	10,200	10,200	10,200
Rent	10,800	10,800	10,800
Annual Grant from the Govt. of Bengal for the publication of the Journal	1,600	1,600	—
Miscellaneous	450	500	500
Members' Subscription	8,500	10,500	9,000
Publication Sales and Subscriptions to Journal and Memoirs	4,500	11,300	—
Proportionate Share for General Expenditure from—			
(1) Oriental Publication Fund No. 1 .. .. .	..	..	1,560
(2) Sanskrit MSS. Fund .. .. .	..	..	1,210
(3) Publication Fund .. .. .	..	..	3,000
TOTAL ..	46,400	55,350	47,000

Extraordinary Receipts.

	Rs.	Rs.	Rs.
By Fees—			
by Admission Fees	800	3,220	1,280
by Compounding Fees .. .. .	..	1,460	..
TOTAL ..	800	4,680	1,280

Ordinary Expenditure.

	Rs.	Rs.	Rs.
Salaries and Allowances	23,800	24,020	25,920
Commission	300	230	300
Stationery	1,000	850	900
Fan, Light and Telephone	800	1,070	900
Taxes	2,400	3,650	2,575
Postage	1,000	1,020	1,000
Contingencies	800	1,100	1,000
Petty Repairs	50	50	50
Insurance	800	855	855
Menials Clothing	50	265	300
Furniture	50	135	50
Building Repairs	1,000	1,000	1,000
Provident Fund Share	700	595	600
Audit Fees	250	250	250
Books, Library	2,000	1,700	2,000
Binding, Library	1,500	1,510	1,500
Journal and Memoirs	4,600	5,455	—
Printing Circulars, etc.	600	860	800
Dearness Allowance	3,500	4,700	4,800
Cataloguing, Library	1,200	1,135	1,200
TOTAL ..	46,400	50,450	46,000

Extraordinary Expenditure.

	Budget estimate for 1944.	Actuals for 1944.	Budget estimate for 1945.
	Rs.	Rs.	Rs.
To Permanent Reserve—			
By Admission Fees	800	3,220	1,280
Compounding Fees .. .. .	..	1,460	..
TOTAL ..	800	4,680	1,280

Publications.

The complete volume of the Journal for the year has been published and distributed to members and subscribers. The volume is composed of four numbers (1 Letters, 2 Science and 1 Year-Book).

Memoirs.—*Mahāvvyutputti* by A. Csoma de Körös, in English, Tibetan and Sanskrit has been published. This completes a work undertaken in 1910.

Bibliotheca Indica.

(i) The text of *Kuṭṭanīmatam*, edited by Pandit M. S. Kaul, has been published as fascicule 1.

(ii) *Padmāvatī*, English Translation by Mr. A. G. Shirreff, I.C.S., has been published; this completes a work undertaken in January, 1942.

(iii) *Vajjālaggam*, edited by J. Laber. Fascicule 3 has been published. This completes a work undertaken in 1914.

(iv) *Index of Amal-i-Salih.*—Pages 1–182 have been received from Dr. Yazdani and sent to the press. Pages 1–32 have been printed off.

Descriptive Catalogue of the MSS. in the possession of the Royal Asiatic Society of Bengal.

I. (i) *Descriptive Catalogue of Sanskrit MSS.*, Vol. X.—Astronomy and Astrology, prepared by MM. H. P. Shastri and revised and edited by Prof. P. C. Sen Gupta. Pages 1–288 have been printed. This completes half of the work.

(ii) *Descriptive Catalogue of Sanskrit MSS.*, Vol. XI.—Philosophy, prepared by MM. H. P. Shastri, and revised and edited by Prof. N. C. Vedantatirtha. Pages 1–112 have been printed.

II. (i) *Descriptive Catalogue of Arabic MSS.*, Vol. II.—Since the death of Shamsul Ulema Dr. M. Hidayet Hosain, this work has remained in abeyance. Dr. S. A. Imam was entrusted with its completion but no progress was made owing to his departure from Calcutta; it is proposed therefore to undertake the work departmentally.

(ii) *Descriptive Catalogue of Persian MSS.*—Dr. A. B. M. Habibullah was commissioned to prepare the third supplement to the *Descriptive Catalogue of Persian MSS.*

New Works sent to the Press.

The following works have been sent to the press:—

(i) *Ain-i-Akbari*, Vol. III, revised by Sir Jadunath Sarkar.

(ii) *Kols of India*, by Dr. W. G. Griffiths.

(iii) *Introducing India.*—This book consists of selected papers read at the Society's Discussion Meetings.

The following works are under preparation:—

(1) *Haft-Iqlim*, Vol. II by Prof. M. M. Haq.

(2) *Bhagavat Gītā* (in Persian verse) by Dr. B. Prashad.

(3) *Maathir-ul-Umarā*, Vol. II, English Translation by Dr. B. Prashad.

(4) *Ain-i-Akbari*, Vol. II, English Translation revised and edited by Sir Jadunath Sarkar.

Sales.

Since the introduction of the re-organization scheme in August 1943, published in the Year-Book for 1944, the sales of the Society have steadily increased. Revenues earned by sale of books were as follows:—

1943—				Rs.	A.	P.
January to July	..	..	..	1,717	12	3
August to December (i.e. after the working of the new scheme)	..	..	..	4,397	8	9
TOTAL				6,115	5	0
1944—						
January to December	..	..	..	13,395	1	0

During 1944, the average monthly sales amounted to Rs.1,116, whereas the normal average for some years past had been between Rs.400 and Rs.500.

Cultural Activities.*(a) ORDINARY MONTHLY MEETINGS.*

These meetings were held regularly with the exception of the recess months, September and October. The average attendance was 14 members and 1 visitor. The maximum attendance was in July with 21 members and 3 visitors.

After the termination of the ordinary routine business of the Monthly Meeting in July, a Special Commemoration Meeting was held as a token of respect to the late Acharya Sir Prafulla Chandra Ray, Kt., C.I.E., D.Sc., F.R.A.S.B., who was the seniormost Ordinary Fellow of the Society.

(b) EXHIBITS.

At the Ordinary Monthly Meetings several interesting exhibits were shown and commented upon. The following may be mentioned:—

M. M. Haq: A beautiful Persian MS. of the sixteenth century of selected verses by well-known poets; A valuable Persian MS. of the Poems of Sanā'i, and the original illustrated Persian version of the Sanskrit Harivamśa.

General Secretary: Rare and interesting MSS. belonging to the Society's Library:—

Meghaduta, Tadhīb Sharh As-Sab' Al-Mu'allaqāt, Adāb-i-Alamgiri; Mālavikāgnimitram by Kālidāsa, Rasā'ilu'l-Ghazālī; Rasadīpikā, Sirāju'l-Mulūk; Lata'ifu'l-Akhbār.

(c) GENERAL.

In addition to the General Lectures and the Discussion Meetings, facilities were offered to members of the Allied Forces for study and research, and help was also rendered to institutions and scholars outside Calcutta on matters of antiquarian and historical interest.

(d) GENERAL LECTURES.

During the year five general lectures were delivered before fairly large audience of members and visitors:—

3rd February	..	Prof. A. V. Hill of the Royal Society of London on 'The Royal Society'.
15th February	..	Dr. Li Fang-Kuei on 'Some characteristics of the Chinese Language'.
20th March	..	Mr. A. J. Dash on 'Sikkim'.
4th November	..	Mr. T. N. Ramachandran and Dr. S. Paramasivan on 'South India—Its Archaeological Problems'. (Symposium.)
13th November	..	Dr. V. Elwin on 'Aboriginal Life' (illustrated by coloured films).

(e) DISCUSSION MEETINGS.

As stated in the Annual Report of last year, since 1942 Discussion Meetings were introduced as a part of the cultural activities of the Society. Invitations

to the meetings were extended to all members of the Allied Forces; the subjects chosen evoked considerable interest, and were all well attended. With the exception of the Pujah and the Christmas Holidays, regular Discussion Meetings were held every week and no less than 39 Meetings were held during the year. Many of these lectures were illustrated by lantern slides.

The Hon'ble Mr. Justice Edgley, Chairman of the Programme Committee, continued to be in charge of this branch of the Society's work. The Council are grateful to the British and American military authorities for their co-operation in making these meetings a success. In this connection our thanks are due to the British Amenities Branch for their contribution of Rs.500 towards the expense of the meetings and to the U.S. Army for their gifts of commodities required for providing light refreshments for the members of the Allied Forces, who were present on these occasions.

January 13th	..	The Hon'ble Mr. Justice N. G. A. Edgley: A glimpse of India thirteen hundred years ago.
" 20th	..	Mr. G. W. Tyson: The Impact of War upon the Industries of India.
" 27th	..	Dr. W. D. West: Modern Afghanistan.
February 10th	..	Mr. H. R. Wiltshire: Ceylon, ancient and modern.
" 17th	..	Mr. W. C. Wordsworth: Early History of the Press in India.
" 24th	..	Mr. H. Hobbs: Old Calcutta.
March 2nd	..	The Hon'ble Mr. Justice T. Ameer Ali: <i>Rex versus Nundocomar</i> , —a famous State trial of the eighteenth century.
" 16th	..	Col. Charles L. Leodham: American Medicine in this war.
" 23rd	..	The Hon'ble Mr. Justice N. G. A. Edgley: A further glimpse of India 1,300 years ago.
" 30th	..	Dr. M. Z. Siddiqi: The life of the Prophet Mohammed and the Expansion of Islam.
April 20th	..	Major A. J. Gricius: Occupation of Sicily and Italy.
" 27th	..	Major Harry Hobbs: Old Theatres in India.
May 4th	..	Mr. Colin Cleghorn: Indian Life.
" 11th	..	Dr. Kalidas Nag: Early History of the Royal Asiatic Society of Bengal.
" 18th	..	Dr. P. J. Thomas: Economic Post-War Reconstruction.
" 25th	..	Mr. T. N. Ramachandran: Recent Archaeological Excavations in S. India.
June 8th	..	Col. D. L. Crane of the U.S. Army: The joint occupation of Iceland by British and American Forces.
" 15th	..	Dr. P. K. Ghose: Contribution of Medical men to Literature.
" 22nd	..	Lieut. E. Morgan: Bibliography.
" 29th	..	Mr. C. S. Mullan: The Hill Tribes of Assam.
July 6th	..	Pte. Cai Tinney: The Coming Presidential Election in the U.S.A.
" 13th	..	Lt.-Col. R. E. Mayne: Security and the Enemy's indirect attack.
" 20th	..	Dr. B. S. Guha: Hill Tribes on the Burma Frontier.
" 27th	..	Mr. L. R. Fawcus: Travels of Marco Polo.
August 3rd	..	Dr. Bimala Churn Law: Ancient Historical Sites of Bengal.
" 10th	..	Lt.-Col. William H. Cureton: Great Commanders of the Far East, Genghis Khan and Subotai.
" 17th	..	Mr. L. K. Elmhirst: Post-War Development in the Middle East.
" 24th	..	Dr. W. G. Griffiths: Social Customs of the Kol Tribe.
" 31st	..	Dr. S. L. Hora: Food and Game Fishes of Bengal.
September 7th	..	Sir Cyril Fox: Importance of Indian Minerals in connection with the war.
" 14th	..	Dr. S. K. Chatterjee: Places of Pilgrimage in India.
November 2nd	..	Rev. John Kellas: Future of Education in India.
" 9th	..	Mr. Colin Cleghorn: Indian Life.
" 16th	..	Dr. Amiya Chakrabarty: Tagore's Cultural Academy.
" 23rd	..	Mr. Colin Cleghorn: Indian Life.
" 30th	..	Mr. Sandford Gorton: The English Theatre.
December 7th	..	Capt. F. J. Hanus: German non-military methods for preparing war.
" 14th	..	Mr. Kenneth Hall: War-Time Production of Aluminium in India.
" 21st	..	Mr. Harindranath Chattopadhyaya: Songs of India.

The proposal has been made that a selection of the lectures delivered at the Discussion Meetings should be published in book-form with illustrations, and entitled '*Introducing India*'. For this purpose Dr. B. C. Law has been good enough to donate the sum of Rs.3,000 with a further sum of Rs.189-6-6 towards the

expenses of the reproductions of his own illustrations. The series of lantern slides used in his lecture he has also presented to the Society.

(f) PROPOSALS MADE BY THE SOCIETY FOR POST-WAR RECONSTRUCTION IN INDIA.

During the year, the Council considered the question of the participation by the Society in the post-war scientific, industrial and cultural reconstruction of India, and for this purpose two permanent Advisory Boards—scientific and cultural—were constituted with the object of preparing certain well-defined schemes relating to post-war reconstruction. These Boards held several meetings, severally and jointly, and with the approval of the Council, certain proposals on behalf of the Society were forwarded to the Governments of India and of Bengal. Proposals already submitted are as follows: (1) The establishment of a Travellers' Department in India; (2) The necessity for a Central Record Office in Bengal; (3) The future development of the Archaeological Department; (4) The establishment of a National Museum at New Delhi as a War Memorial; (5) The amendment of the Ancient Monuments Preservation Act; (6) The establishment of a School of Architecture and Planning in India. These Boards are considering further proposals, which in due course will be forwarded to the Government of India.

As an outcome of the several meetings of the Scientific Advisory Board, the Council have accepted their recommendation that a special volume entitled '*Science and Post-War Development in India*' be published. It is intended that it should interpret modern scientific developments in such a manner to the general educated public as to facilitate progress in this country along scientific lines. The volume will consist of 11 chapters, each written by an eminent authority, as follows:—

Chapter titles.		Authors.
1. Science and the Health of India	.. ..	Dr. A. C. Ukil.
2. The Future of Animal Husbandry Work in India	.. ..	Mr. C. E. Ballinger.
3. The Mineral Resources of India and their Utilization	.. ..	Sir Cyril Fox.
4. The Fisheries of India	.. ..	Dr. S. L. Hora.
5. Agriculture	.. ..	Mr. C. H. Parr.
6. The Utilization of India's Forest Products	.. ..	Mr. E. L. P. Foster and Dr. S. Krishna.
7. The Weather of India	.. ..	Dr. S. K. Banerji.
8. The Utilization of India's Water Resources	.. ..	Mr. H. M. Mathews and Mr. A. R. Thomas.
9. Archaeology as a National Asset	.. ..	Dr. Mortimer Wheeler.
10. Aboriginal Tribes and their Administration	.. ..	Dr. B. S. Guha.
11. Communications	.. ..	Rai Bahadur N. C. Ghosh.

General.

Routine work in respect of the local distribution of the Society's publications, circulars, forms, etc. and the keeping up to date of the addresses of members was carried out as usual, but the posting of journals, etc., to belligerent and many neutral countries affected by the war had to be discontinued, or was restricted by delays in shipment.

Printers.

Under the able superintendence of Mr. G. E. Bingham, the Baptist Mission Press continued to act as chief printers and gave, as usual, complete satisfaction. Mention also may be made of the help rendered by the Directors of the Calcutta Oriental Press, the General Printers Ltd., and the Inland Printing Works in doing minor printing work for the Society.

Agencies.

The Society's European, American and Indian Agents remain the same. An extension of the list to other Asiatic countries could not be arranged owing to the unsettled world conditions.

Solicitors.

The Society is under obligation to its Solicitors, Messrs. B. N. Basu & Co., for prompt and valuable service rendered during the year. To the head of the firm,

Mr. J. N. Basu, it is specially indebted for his courtesy and ungrudging help on all occasions.

Conclusion.

The first President, Sir William Jones (1746-1795), by establishing the Asiatic Society of Bengal in 1784, laid the foundation of Oriental studies on a scientific basis at a time when the world was racked by wars and revolutions. Spending his early life during the period of the wars of the Austrian Succession and the Seven Years' War, he produced the first series of his *Asiatic Researches* from Calcutta in the very year of the French Revolution (1788-89). Now, in the midst of even more widespread disturbing conditions, and with revolutionary changes everywhere in contemplation, the Society is called upon to prepare for the bicentenary of the birth of its illustrious founder. His short life so earnestly dedicated to the spread of learning provides us with an abiding lesson that the creative powers of Man may rise superior to all the horrors and devastations of war.

Orientalism in general and Indology in particular have attained during the last two centuries their logical position in the world of Science and Letters. Egyptology, Semetic studies, and Biblical Archaeology in the Near East have progressed parallel with the growth of Indology in the Middle East and of Sinology in the Far Eastern field. Through the interchange of experiences of orientalist in the East and the West, it is now realized definitely the manner in which India received the Western Graeco-Roman influences, and how again India in her turn influenced Central Asia and China, Malayasia and Australasia, through centuries of cultural collaboration. The Royal Asiatic Society of Bengal holds the proud record of over 160 years of sustained research and of publication of this research. As such it is entitled to the highest form of academic and material support so that it may develop into the leading Cultural Academy of India and the East. Its unique collections of manuscripts are still waiting to be made available to scholars and to the public until such time as a special Utilization Fund permits of the employment of specialists who will assist in the interpretation of these rare documents. Each undeciphered inscription, each unidentified coin, or other archaeological specimen, and each unedited manuscript is a responsibility which it is the duty of the Society to discharge, for, if by chance these are lost, they are lost for ever. It is hoped that the forthcoming bicentenary of the Founder-President of the Society will evoke support for all these measures so as to develop adequately this institution where generations of scholars from the East and the West have collaborated to demonstrate that the contributions of India to the sum-total of learning throughout the ages have been of inestimable value.

APPENDIX I.

List of Publications issued by the Royal Asiatic Society of Bengal during 1944.

(a) Journal and Proceedings (Third Series):

	Rs.	As.	P.
(1) Vol. X (Letters), No. 1	5	8	0
(2) " " (Science), " 1	3	8	0
(3) " " (Science), " 2	3	0	0
(4) " " (Year-Book)	7	0	0

(b) Bibliotheca Indica :

(1) Vajjālaggam, fasc. 3, edited by J. Luber	3	0	0
(2) Kuṭṭanīmatam Kāvyaṃ, fasc. 1, edited by Pandit M. S. Kaul	3	0	0
(3) Padmāvatī, translated by Mr. A. G. Shirreff	8	8	0

(c) Memoirs:

(1) Mahāvvyutpatti, Part III	8	8	0
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Abstract Statement
of
Receipts and Disbursements
of the
Royal Asiatic Society of Bengal
for
the Year 1944

STATEMENT No. 1.

General

Income and Expenditure Account

		Rs.	As.	P.	Rs.	As.	P.
TO ESTABLISHMENT :							
Salaries and Allowances ..	..	24,064	5	0			
Commission ..	..	229	10	0			
War Allowances ..	..	4,728	15	0			
					29,022	14	0
GENERAL EXPENDITURE :							
Stationery ..	..	762	8	0			
Fans and Light ..	..	645	6	0			
Telephone ..	..	416	5	0			
Taxes ..	..	3,649	13	0			
Postage ..	..	1,050	11	3			
Contingencies ..	..	1,126	3	9			
Printing Circulars, etc. ..	..	923	6	3			
Audit Fee ..	..	250	0	0			
Petty Repairs ..	..	50	8	0			
Insurance ..	..	853	2	0			
Menials' Clothing ..	..	265	2	6			
Furniture and Repairs ..	..	135	3	6			
					10,128	5	3
Purchase of Investments ..	..	....			10,047	5	4
LIBRARY AND COLLECTIONS :							
Cataloguing ..	..	1,135	8	0			
Books ..	..	1,926	9	3			
Binding ..	..	1,509	12	6			
					4,571	13	9
Provident Fund Contribution for 1944 ..	..	....			593	6	0
					54,363	12	4
Transfer to Building Repair Fund Account ..	..	....			1,000	0	0
SUNDRY ADJUSTMENT :							
Bad Debts written-off ..	..	....			804	11	0
BALANCE AS PER BALANCE SHEET ..	..	....			3,14,115	4	7
					3,70,283	11	11

*Fund.**1944.*

for the year ended 31st December, 1944.

		Rs. As. P.	Rs. As. P.
BY BALANCE FROM LAST ACCOUNT	3,05,078 13 11

CASH RECEIPTS :

Interest on Investments	..	..	10,101	8	0	
Interest on Fixed Deposits	..	..	450	0	0	.
Advertising	..	..	10,200	0	0	
Rent	..	..	10,690	0	0	
Miscellaneous	..	..	520	11	0	
						31,962 3 0

PERSONAL ACCOUNT :

Members' Subscriptions	..	..	11,487	0	0	
Admission Fees	..	..	3,056	0	0	
Compounding Fees	..	..	1,760	0	0	
Institutional Members' Fees	..	..	100	0	0	
Unclaimed Credit Balances	..	..	33	0	0	
						16,436 0 0

Investments purchased during the year						
credited at face value	..	..	....	10,000	0	0
Appreciation on Investments re-valued						
on 31st December, 1944	..	..	....	6,806	11	0

3,70,283 11 11

STATEMENT No. 2.

Oriental Publication

From a monthly grant made by the Government of Bengal, for the publication (Rs.500, Less 20% from the 1st April, 1932), and for the

			Rs.	As.	P.
To Depreciation investments revalued					
on 31st December 1944	..	..	9	6	0
Purchase of Investments	..	..	5,016	10	8
Printing .. .. .	..	..	537	0	0
Editing .. .. .	..	..	58	0	0
Binding .. .. .	..	..	249	0	0
Cataloguing .. .. .	..	..	171	6	0
Balance as per Balance Sheet—		Rs. As. P.			
Rs.5,000, 3% War Loan, 1951-54	5,062	8	0		
Rs.5,000 3% Victory Loan, 1957	4,990	10	0		
Surplus at date ..	18,809	14	10		
			28,863	0	10
			34,904	7	6

STATEMENT No. 3.

Oriental Publication

From an annual grant made by the Government of Bengal of Historical
(Less 20% from the

			Rs.	As.	P.
To Balance from last Account	..	..	6,292	12	7
			6,292	12	7

STATEMENT No. 4.

Sanskrit Manuscripts Fund

From an annual grant of Rs.3,200 made by the Government of Bengal by the Society; and Rs.3,600 from the same Government.

			Rs.	As.	P.
To Depreciation investment revalued					
on 31st December 1944	..	..	9	6	0
Purchase of Investments	..	..	5,016	10	8
Cataloguing .. .. .	..	..	2,558	4	0
Binding .. .. .	..	..	438	1	6
Repairs to MSS. .. .. .	..	..	1,773	15	0
Balance as per Balance Sheet—		Rs. As. P.			
Rs.5,000, 3% Victory Loan, 1957	4,990	10	0		
Surplus at date ..	16,373	11	7		
			21,364	5	7
			31,100	10	9

Fund No. 1, in Account with R.A.S.B.

1944.

cation of Oriental Works and Works of Instruction in Eastern Languages
publication of Sanskrit Works hitherto unpublished, Rs.250.

			Rs.	As.	P.
By	Balance from last Account	..	21,817	10	6
	Annual Grant ..	..	7,800	0	0
	Interest realized during the year ..	..	224	5	0
	Investments purchased during the year credited				
	at face value ..	..	5,000	0	0
	Appreciation on investments revalued on 31st				
	December, 1944 ..	..	62	8	0

34,904 7 6
Fund No. 2, in Account with R.A.S.B.

1944.

Rs.3,000 for the publication of Arabic and Persian Works of
Interest.
1st of April, 1932.)

			Rs.	As.	P.
By	Balance as per Balance Sheet	..	6,292	12	7
			6,292	12	7

Account, in Account with R.A.S.B.

1944.

for the publication of the Catalogue of Sanskrit Manuscripts acquired
(Less 20% from the 1st of April, 1932)
for Research Work.

			Rs.	As.	P.
By	Balance from last Account	..	17,685	13	9
	Annual Grant ..	..	3,200	0	0
	Non-recurring Grant from Central Govt. ..	..	5,200	0	0
	Investments purchased during the year credited				
	at face value ..	..	5,000	0	0
	Interest realized during the year ..	..	74	13	0

31,160 10 9

STATEMENT No. 5. *Arabic and Persian Manuscripts*

From an annual grant of Rs.5,000 made by the Government of India for
by the Society; for the purchase of further Manuscripts,
Manuscripts found in
(Less 50% from 1st April,

	Rs.	As.	P.	Rs.	As.	P.
To Balance from last Account			153	1	6
Purchase of MSS.			200	0	0
Balance as per Balance Sheet			2,146	14	6
				<hr/>		
				2,500	0	0

STATEMENT No. 6.

Barclay Memorial

From a sum of Rs.500 odd given in 1896 by the Surgeon
encouragement of Medical

	Rs.	As.	P.	Rs.	As.	P.
To Cost of a Medal ..	....			18	1	0
Balance as per Balance Sheet—						
Rs.700, 3½% G.P. Notes, 1854-55 ..	700	0	0			
Surplus at date ..	139	12	8			
	<hr/>			839	12	8
				<hr/>		
				857	13	8

STATEMENT No. 7.

Servants' Pension Fund

Founded in 1876 as the Piddington Pension Fund

	Rs.	As.	P.	Rs.	As.	P.
To Pension ..	....			132	0	0
Balance as per Balance Sheet—						
Rs.3,000, 3½% G.P. Notes, 1854-55	3,000	0	0			
Surplus at date ..	729	2	8			
	<hr/>			3,729	2	8
				<hr/>		
				3,861	2	8

Fund Account, in Account with R.A.S.B

1944.

the cataloguing and binding of Arabic and Persian Manuscripts, acquired and for the preparation of notices of Arabic and Persian various Libraries in India. 1939.)

	Rs.	As.	P.	Rs.	As.	P.
By Annual Grant	2,500	0	0			
				2,500	0	0

Fund Account, in Account with R.A.S.B.

1944.

General, I.M.S., for the foundation of a medal for the and Biological Science.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account ..				816	8	8
Interest realized during the year ..				24	4	0
Appreciation on Investments revalued on 31st December, 1944 ..				17	1	0
				857	13	8

Account, in Account with R.A.S.B.

1944.

with Rs.500 odd from the Piddington Fund.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account ..	3,683	4	8			
Interest realized during the year ..	104	12	0			
Appreciation on Investments revalued on 31st December, 1944 ..	73	2	0			
	3,861	2	8			

STATEMENT No. 8.

Annandale Memorial Fund

From donations by subscription,

	Rs.	As.	P.	Rs.	As.	P.
To Balance as per Balance Sheet—						
Rs.4,000, 3½% G.P. Notes, 1854-55	4,000	0	0			
Surplus at date	834	14	9			
				4,834	14	9
				4,834	14	9

STATEMENT No. 9.

Permanent Library Endowment

From gifts received;

	Rs.	As.	P.	Rs.	As.	P.
To Balance as per Balance Sheet—						
Rs.14,000, 3½% G.P. Notes, 1854-55	14,000	0	0			
Surplus at date	4,693	7	8			
				18,693	7	8
				18,693	7	8

STATEMENT No. 10.

Sir William Jones Memorial

From a sum gifted for the purpose in

	Rs.	As.	P.	Rs.	As.	P.
To Cost of a Medal				489	9	0
Balance as per Balance Sheet—						
Rs.3,000, 3½% G.P. Notes, 1854-55	3,000	0	0			
Surplus at date	183	6	0			
				3,183	6	0
				3,672	15	0

STATEMENT No. 11.

Pramathanath Bose Memorial

From a sum gifted for

	Rs.	As.	P.	Rs.	As.	P.
To Cost of a Medal				276	4	0
Balance as per Balance Sheet—						
Rs.800, 3½% G.P. Notes, 1842-43	800	0	0			
„ 1,000, „ „ 1865	1,000	0	0			
Surplus at date	238	12	0			
				2,038	12	0
				2,315	0	0

Account, in Account with R.A.S.B.

1944.

started in 1926.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			4,598	14	9
Interest realized during the year			138	8	0
Appreciation on Investments revalued on 31st December, 1944			97	8	0
				<u>4,834</u>	<u>14</u>	<u>9</u>

Fund Account, in Account with R.A.S.B.

1944.

started in 1926.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			17,863	3	8
Interest realized during the year			489	0	0
Appreciation on Investments revalued on 31st December, 1944			341	4	0
				<u>18,693</u>	<u>7</u>	<u>8</u>

Fund Account, in Account with R.A.S.B.

1944.

1926, by Dr. U. N. Brahmachari.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			3,495	1	0
Interest realized during the year			104	12	0
Appreciation on Investments revalued on 31st December, 1944			73	2	0
				<u>3,672</u>	<u>15</u>	<u>0</u>

Fund Account, in Account with R.A.S.B.

1944.

the purpose in 1935.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			2,212	6	0
Interest realized during the year			58	12	0
Appreciation on Investments revalued on 31st December, 1944			43	14	0
				<u>2,315</u>	<u>0</u>	<u>0</u>

STATEMENT No. 12.

Joy Gobind Law Memorial

From a donation for the purpose

	Rs. As. P.	Rs. As. P.
To Balance as per Balance Sheet—		
Rs.3,000, 3½% G.P. Notes, 1854-55	3,000 0 0	
Surplus at date	313 4 0	
		3,313 4 0
		3,313 4 0

STATEMENT No. 13. *Calcutta Science Congress Prize*

	Rs. As. P.	Rs. As. P.
To Cost of a Medal .. ..	....	508 8 0
Balance as per Balance Sheet—		
Rs.3,000, 3½% G.P. Notes, 1854-55	3,000 0 0	
Surplus at date	207 10 7	
		3,207 10 7
		3,716 2 7

STATEMENT No. 14.

Dr. Brühl Memorial

From a sum gifted for the purpose in

	Rs. As. P.	Rs. As. P.
To Balance as per Balance Sheet—		
Rs.1,000, 3½% G.P. Notes, 1854-55	1,000 0 0	
Surplus at date	280 13 0	
		1,280 13 0
		1,280 13 0

STATEMENT No. 15.

Dr. Bimala Churn Law

From a sum Gifted for the purpose

	Rs. As. P.	Rs. As. P.
To Cost of a Medal .. ..	....	436 0 0
Balance as per Balance Sheet—		
Rs.8,000, 3½% G.P. Notes, 1865 ..	8,000 0 0	
Surplus at date	447 14 0	
		8,447 14 0
		8,883 14 0

Fund Account, in Account with R.A.S.B.

1944.

in 1929, by Dr. Satya Churn Law.

	Rs. As. P.	Rs. As. P.
By Balance from last Account	3,135 6 0
Interest realized during the year	104 12 0
Appreciation on Investments revalued on 31st December, 1944	73 2 0
		<hr/> 3,313 4 0

Fund Account, in Account with R.A.S.B.

1944.

	Rs. As. P.	Rs. As. P.
By Balance from last Account	3,538 4 7
Interest realized during the year	104 12 0
Appreciation on Investments revalued on 31st December, 1944	73 2 0
		<hr/> 3,716 2 7

Fund Account, in Account with R.A.S.B.

1944.

1929, by the Brühl Farewell Committee.

	Rs. As. P.	Rs. As. P.
By Balance from last Account	1,221 11 0
Interest realized during the year	34 12 0
Appreciation on Investments revalued on 31st December, 1944	24 6 0
		<hr/> 1,280 13 0

Gold Medal Fund Account, in Account with R.A.S.B. 1944.

by Dr. B. C. Law.

	Rs. As. P.	Rs. As. P.
By Balance from last Account	8,270 0 0
Interest realized during the year	418 14 0
Appreciation on Investments revalued on 31st December, 1944	195 0 0
		<hr/> 8,883 14 0

STATEMENT No. 16.

Sarat Ch. Roy Medal

From a sum Gifted

	Rs. As. P.	Rs. As. P.
To Depreciation, on Investments revalued on 31st December, 1944 ..	....	7 8 0
Purchase of Investments ..	....	4,016 10 8
Balance as per Balance Sheet—		
Rs.4,000, 3% Victory Loan, 1957 ..	3,992 8 0	
Surplus at date ..	233 5 4	
	<hr/>	4,225 13 4
		<hr/>
		8,250 0 0

STATEMENT No. 17.

Building Repair

	Rs. As. P.	Rs. As. P.
To Repairs during the year	3,891 2 6
Balance as per Balance Sheet	3,520 0 0
		<hr/>
		7,411 2 6

STATEMENT No. 18.

Provident Fund

From contributions by the

	Rs. As. P.	Rs. As. P.
To Payments during the year ..	....	2,781 3 0
Cost of a stamp ..	....	0 1 0
Balance as per Balance Sheet—		
Rs.6,000, 3½% G.P. Notes, 1900-01	6,000 0 0	
Rs.5,200, 3% G.P. Notes, 1963-65	5,154 8 0	
Savings Bank and Advances ..	6,955 4 0	
	<hr/>	18,109 12 0
		<hr/>
		20,891 0 0

Fund Account, in Account with R.A.S.B.

1944.

by Mrs. S. C. Roy for the purpose.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			4,250	0	0
Purchase of Investments credited at face value			4,000	0	0
				<u>8,250</u>	<u>0</u>	<u>0</u>

Fund Account, in Account with R.A.S.B.

1944.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account			6,411	2	6
Transfer from R.A.S.B. General Fund			1,000	0	0
				<u>7,411</u>	<u>2</u>	<u>6</u>

Account, in Account with R.A.S.B.

1944.

Society and its Staff.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account ..	....			19,114	6	0
Interest realized during the year ..	14	10	0			
Staff Contribution for the year ..	593	6	0			
Society's Contribution for the year ..	593	6	0			
				<u>1,201</u>	<u>6</u>	<u>0</u>
Interest realized from Savings Bank ..	....			422	8	0
Appreciation on Investments revalued on 31st December, 1944 ..	....			152	12	0
				<u>20,891</u>	<u>0</u>	<u>0</u>

STATEMENT No. 19.

Advances Account,

		Rs. As. P.	Rs. As. P.
To Balance from last Account	2,656 0 0
Payments during the year	740 0 0
			<u>3,396 0 0</u>

STATEMENT No. 20.

Personal

		Rs. As. P.	Rs. As. P.
To Balance from last Account	..	....	4,837 2 6
Advances	..	....	1,296 1 0
Unclaimed Credit Balances written back	..	33 0 0	
R.A.S.B.'s Subscriptions, etc.	..	16,403 0 0	
Book Sales, etc.	..	11,054 5 6	
			<u>27,490 5 6</u>

 33,623 9 0

STATEMENT No. 21.

Publication Fund Account,

		Rs. As. P.	Rs. As. P.
To Depreciation on Investments revalued on 31st December, 1944	..	....	18 12 0
Purchase of Investments	..	....	10,033 5 4
Books returned	..	....	99 2 0
Journal and Proceedings	..	....	5,457 8 3
Advertisement	..	....	100 0 0
Binding	..	....	25 10 0
Balance as per Balance Sheet:			
Rupees 10,000, 3% Victory loan, 1957	..	9,981 4 0	
Surplus at date	..	15,056 8 11	
			<u>25,037 12 11</u>
			<u>40,772 2 6</u>

in Account with R.A.S.B.

1944.

		Rs.	As.	P.	Rs.	As.	P.
By Refunds during the year			1,345	0	0
Balance as per Balance Sheet			2,051	0	0
					<u>3,396</u>	<u>0</u>	<u>0</u>

Account.

1944.

		Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts during the year			28,918	5	6
Books returned			99	2	0
Bad Debts written off, R.A.S.B.			804	11	0
Balance as per Balance Sheet			3,801	6	6

Outstandings.	Amount due to the Society.			Amount due by the Society.		
	Rs.	As.	P.	Rs.	As.	P.
Members	3,238	0	0	661	13	0
Subscribers, etc.	1,600	11	0	223	1	6
Bill Collector's Deposit	..	..	..	100	0	0
Miscellaneous	24	13	0	77	3	0
	<u>4,863</u>	<u>8</u>	<u>0</u>	<u>1,062</u>	<u>1</u>	<u>6</u>

33,623	9	0
--------	---	---

in Account with R.A.S.B.

1944.

		Rs.	As.	P.	Rs.	As.	P.
By Balance from last Account	..	....			11,202	6	6
Government Grant	..	....			1,600	0	0
Donation	..	....			3,500	0	0
Book Sales, etc.	..	11,054	5	6			
Cash Sale of Publications	..	3,265	12	6			
					<u>14,320</u>	<u>2</u>	<u>0</u>
Interest realized during the year	..	....			149	10	0
Investments purchased during the year credited at face value	..	....			10,000	0	0

40,772	2	6
--------	---	---

STATEMENT No. 22. *Discussion Meeting Fund Running*

From sale proceeds

		Rs.	As.	P.	Rs.	As.	P.
To Balance from last Account			306	14	3
Contingent charges (tea, etc.)			557	7	6
					<u>864</u>	<u>5</u>	<u>9</u>

STATEMENT No. 23. (1) *Deposit Account (Savings Bank*

		Rs.	As.	P.	Rs.	As.	P.
To Balance from last Account	..	....			5,456	10	0
Deposit of Interest realized from loans during the year	..	14	10	0			
Deposit of Contributions during the year	..	1,186	12	0			
Deposit of Advances returned	..	1,345	0	0			
					<u>2,546</u>	<u>6</u>	<u>0</u>
Interest for the year	..	....			422	8	0
					<u>8,425</u>	<u>8</u>	<u>0</u>

STATEMENT No. 24. (2) *Deposit Account (Fixed Deposit*

		Rs.	As.	P.	Rs.	As.	P.
To Balance from last Account			30,000	0	0
					<u>30,000</u>	<u>0</u>	<u>0</u>

Account, in Account with R.A.S.B.

1944.

of Tickets.

	Rs.	As.	P.	Rs.	As.	P.
By Contributions		558	8	0
Balance as per Balance Sheet		305	13	9
				<hr/>	<hr/>	<hr/>
				864	5	9

Deposit with Imperial Bank of India).

1944.

	Rs.	As.	P.	Rs.	As.	P.
By Withdrawal for Staff Advances, etc.				3,521	3	0
Cost of a stamp		0	1	0
Balance as per Balance Sheet		4,904	4	0
				<hr/>	<hr/>	<hr/>
				8,425	8	0

with Imperial Bank of India).

1944.

	Rs.	As.	P.	Rs.	As.	P.
By Balance as per Balance Sheet		30,000	0	0
				<hr/>	<hr/>	<hr/>
				30,000	0	0

STATEMENT No. 25.

(3) Investments

	Rs.	As.	P.
To Balance from last Account	3,34,318	12	0
Purchases during the year	34,000	0	0
Appreciation on Investments revalued on 31-12-1944 ..	7,988	8	0
	3,76,307	4	0

Face Value Rs.	FUNDS.	Rate @ Rs. %	31st December, 1944, Valuation.		31st December, 1945, Valuation including purchases during the year.		Appreciation or *Depreciation.	
			Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
	ROYAL ASIATIC SOCIETY OF BENGAL.							
	PERMANENT RESERVE.							
16,700	3½% G.P. Notes, 1842-48	}						
1,58,700	3½% G.P. Notes, 1854-55							
44,800	3½% G.P. Notes, 1865							
6,000	3½% G.P. Notes, 1879							
83,000	3½% G.P. Notes, 1900-01							
2,58,700			2,58,700	0 0	2,47,516	1 0	6,183	15 0
500	8% G.P. Notes, 1893-97	100/-	456	4 0	428	12 0	32	8 0
	TEMPORARY RESERVE.							
12,000	3½% G.P. Notes, 1900-01	100/-	12,000	0 0	11,707	8 0	292	8 0
11,400	4½% Loan, 1955-60	117¼/-	13,866	8 0	18,181	4 0	185	4 0
5,000	8% War Loan, 1951-54	101¼/-	5,062	8 0	5,000	0 0	62	8 0
10,000	8% Defence Loan, 1953-55	100½/-	10,050	0 0	*10,000	0 0	50	0 0
	ORIENTAL PUBLICATION FUND No. 1.							
5,000	8% War Loan, 1951-54	101¼/-	5,062	8 0	5,000	0 0	62	8 0
5,000	8% Victory Loan, 1957	99½/-	4,990	10 0	*5,000	0 0	*9	6 0
	SANSKRIT MSS. FUND.							
5,000	8% Victory Loan, 1957	99½/-	4,990	10 0	*5,000	0 0	*9	6 0
	BARCLAY MEMORIAL FUND.							
700	3½% G.P. Notes, 1854-55	100/-	700	0 0	682	15 0	17	1 0
	SEK-VANTS' PENSION FUND.							
3,000	3½% G.P. Notes, 1854-55	100/-	3,000	0 0	2,926	14 0	73	2 0
	ANNANDALE MEMORIAL FUND.							
4,000	3½% G.P. Notes, 1854-55	100/-	4,000	0 0	3,902	8 0	97	8 0
	PERMANENT LIBRARY ENDOWMENT FUND.							
14,000	3½% G.P. Notes, 1854-55	100/-	14,000	0 0	13,658	12 0	341	4 0
	SIR WILLIAM JONES MEMORIAL FUND.							
3,000	3½% G.P. Notes, 1854-55	100/-	3,000	0 0	2,926	14 0	73	2 0
	PRAMATHANATH BOSE MEMORIAL FUND.							
800	3½% G.P. Notes, 1842-48	100/-	1,800	0 0	1,756	2 0	43	14 0
1,000	3½% G.P. Notes, 1865							
	JOY GOBIND LAW MEMORIAL FUND.							
3,000	3½% G.P. Notes, 1854-55	100/-	3,000	0 0	2,926	14 0	73	2 0
	CALCUTTA SCIENCE CONGRESS PRIZE FUND.							
3,000	3½% G.P. Notes, 1854-55	100/-	3,000	0 0	2,926	14 0	73	2 0
	DR. BRÜHL MEMORIAL FUND.							
1,000	3½% G.P. Notes, 1854-55	100/-	1,000	0 0	975	10 0	24	6 0
	DR. BIMLA CHURN LAW GOLD MEDAL FUND.							
8,000	3½% G.P. Notes, 1865	100/-	8,000	0 0	7,805	0 0	195	0 0
	SARAT CH. ROY MEDAL FUND.							
4,000	8% Victory Loan, 1957	99½/-	3,992	8 0	*4,000	0 0	*7	8 0
	PUBLICATION FUND.							
10,000	8% Victory Loan, 1957	99½/-	9,981	4 0	*10,000	0 0	*18	12 0
	PROVIDENT FUND.							
5,200	8% Loan (1968-65)	99½/-	5,154	8 0	5,148	0 0	6	8 0
6,000	3½% G.P. Notes, 1900-01	100/-	6,000	0 0	5,853	12 0	146	4 0
3,74,800			3,76,307	4 0	3,84,818	12 0	8,083	8 0
					*34,000	0 0	*45	0 0

*Account.**1944.*

			Rs.	As.	P.
By Balance as per Balance Sheet	..	..	3,76,307	4	0
			<u>3,76,307 4 0</u>		

STATEMENT No. 26.

Cash

For the year ended 31st

To	Rs. As. P.	Rs. As. P.
Balance from last Account	50,373 12 8
General Fund Account	31,962 3 0
Oriental Publication Fund No. 1 Account	8,024 5 0
Sanskrit Manuscripts Fund Account	8,474 13 0
Arabic and Persian Fund Account	2,500 0 0
Barclay Memorial Fund Account	24 4 0
Servants' Pension Fund Account	104 12 0
Annandale Memorial Fund Account	138 8 0
Permanent Library Endowment Fund Account	489 0 0
Sir William Jones Memorial Fund Account	104 12 0
Pramathanath Bose Memorial Fund Account	58 12 0
Joy Gobind Law Memorial Fund Account	104 12 0
Calcutta Science Congress Prize Fund Account	104 12 0
Dr. Brühl Memorial Fund Account	34 12 0
Dr. Bimala Churn Law Gold Medal Fund Account	418 14 0
Provident Fund Account	1,201 6 0
Advances Account	1,345 0 0
Personal Account	28,918 5 6
Publication Fund Account	8,515 6 6
Discussion Meetings Fund Running Account	558 8 0
Savings Bank Deposit Account, Imperial Bank of India, Calcutta	3,521 3 0
		<hr/>
		1,46,978 0 8

*Account.**1944.*

December, 1944.

By	Rs. As. P.	Rs. As. P.
General Fund Account	54,363 12 4
Oriental Publication Fund No. 1 Account	6,032 0 8
Sanskrit Manuscripts Fund Account	9,786 15 2
Arabic and Persian Manuscripts Fund Account	200 0 0
Barclay Memorial Fund Account	18 1 0
Servants' Pension Fund Account	132 0 0
Sir William Jones Fund Account	489 9 0
Pramatha Nath Bose Fund Account	276 4 0
Calcutta Science Congress Fund Account	508 8 0
Dr. Bimala Churn Law Fund Account	436 0 0
Sarat Ch. Roy Fund Account	4,016 10 8
Building Repair Fund Account	3,891 2 6
Provident Fund Account	2,781 3 0
Advances Account	740 0 0
Personal Account	1,296 1 0
Publication Fund Account	15,616 7 7
Discussion Meetings Running Account	557 7 6
Savings Bank Deposit Account, Imperial Bank of India	2,546 6 0
Balance as per Balance Sheet—		
In hand	25 12 3
With the Imperial Bank of India, on Current Account	43,263 12 0
		<hr/>
		1,46,978 0 8

STATEMENT No. 27.

Balance

As at 31st

LIABILITIES.

	Rs.	As.	P.	Rs.	As.	P.
General Fund Account	3,14,115	4	7		
Oriental Publication Fund No. 1 Account	28,863	0	10		
Sanskrit Manuscripts Fund Account	21,364	5	7		
Arabic and Persian Manuscripts Fund Account	2,146	14	6		
Barclay Memorial Fund Account	839	12	8		
Servants' Pension Fund Account	3,729	2	8		
Annandale Memorial Fund Account	4,834	14	9		
Permanent Library Endowment Fund Account	18,693	7	8		
Sir William Jones Memorial Fund Account	3,183	6	0		
Pramathanath Bose Memorial Fund Account	2,038	12	0		
Joy Gobind Law Memorial Fund Account	3,313	4	0		
Calcutta Science Congress Prize Fund Account	3,207	10	7		
Dr. Brühl Memorial Fund Account	1,280	13	0		
Dr. Bimala Churn Law Gold Medal Fund Account	8,447	14	0		
Sarat Ch. Roy Medal Fund Account	4,225	13	4		
Building Repair Fund Account	3,520	0	0		
Provident Fund Account	18,109	12	0		
Publication Fund Account	25,037	12	11		
Personal Account—Sundry Liabilities	1,062	1	6		
		<u>4,68,014</u>	<u>2</u>	<u>7</u>		

We have examined the above Balance Sheet and the appended detailed accounts with the Books and Vouchers presented to us and certify that they are in accordance therewith, and, in our opinion, set forth correctly the position of the Society as at 31st December, 1944.

PRICE, WATERHOUSE, PEAT & Co.,

Calcutta,
29th January, 1945.

Auditors,
Chartered Accountants,
Registered Accountants.

Sheet.

1944.

December, 1944.

ASSETS.		Rs.	As.	P.	Rs.	As.	P.
Oriental Publication Fund No. 2 Account ..	..	2,051	0	0	6,292	12	7
Advances Account ..	..	4,863	8	0			
Personal Account—Sundry Outstandings ..	..				6,914	8	0
Discussion Meetings Fund Running Account					305	13	9
Deposits :—							
Savings Bank Deposit Account, Imperial Bank of India ..	..	4,904	4	0			
Fixed Deposit Account, Imperial Bank of India ..	..	30,000	0	0	34,904	4	0
Investments Account ..	..				3,76,307	4	0
Cash Account :—							
In hand ..	..	25	12	3			
With the Imperial Bank of India, on Current Account ..	..	43,263	12	0	43,289	8	3
					4,68,014	2	7

C. W. GURNER,
Honorary Treasurer.

[APPENDIX IV.]

Abstract Proceedings, Council, 1944.

(Rule 48 f.)

ADVISORY BOARDS, RECOMMENDATIONS OF.—General Secretary read out a letter from Mr. C. W. Gurner relating to the opening of a reading library for the services at the Society's rooms. The proposal was accepted and they decided to start the work at once to the benefit of officers and other ranks. Librarian should be informed accordingly. The General Secretary also read a letter from Sir Cyril Fox, who could not attend, but who announced in his letter that he would soon be ready with two reports: (1) on the present shortage of coal, and (2) on the mineral resources of India. The letter was also communicated by the General Secretary to the joint sitting of the Cultural and Scientific Boards. (1) The Chairman communicated to the members of the Board the general plan for the publication of the more important talks given at the Society's Discussion Meetings, and it was also resolved (a) to appoint a Board of Editors composed of the Chairman (Hon'ble Mr. Justice Edgley), Dr. B. C. Law (who offered Rs.3,000 to meet the expenses, an offer for which the thanks of the Boards as well as of the Society should be communicated to Dr. Law), Mr. L. R. Fawcett, Mr. K. P. Khaitan and Dr. K. Nag; (b) the manuscripts of the lectures or summaries thereof to be invited from the authors who should be informed that the talks would be published either in full or in part, and that the Board should have full editorial discretion in the matter; (c) with regard to papers not relating to India, their inclusion in the volume and such other questions may be referred to the next meeting of the Board; (d) the Board would put forward schemes to be considered by the Government in connection with the Post-War Reconstruction plan. (2) Among others the following should be given immediate consideration: (a) the plan for a school of Indian Architecture; (b) the question of a Central Museum of Archaeology as suggested in the valuable report of Sir Leonard Woolley; (c) the encouragement of non-official agencies for the purpose of co-operating with the Archaeological Department in exploration work; (d) the development of a plan for Tourist Traffic in connection with Post-War Reconstruction—a scheme for which the Chairman has already prepared the ground. Mr. L. R. Fawcett suggested that development of national parks should be taken to foster interest in the museums and their collections in various parts of India. It was also decided that members of the Society should be asked to submit suggestions to the Board with regard to other matters to which the attention of Government might be properly directed in connection with the formulation of schemes for Post-War Reconstruction. Cul. Adv. Bd. No. 4. 6-3-44.

Recommendations of the Scientific and Cultural Advisory Boards. Accept. Dr. R. C. Majumdar and Mr. W. D. West (Secretary, Scientific Advisory Board, be co-opted on the Editorial Board of the special publication referred to in item No. (1)(a) stated above. In this connection, the Hon'ble Mr. Justice Edgley reported receipt of an amount of Rs.500 from the Welfare and Amenities Branch of the British Army (through Major N. A. Ellis) to meet refreshment expenses of the Discussion Meetings and a promise made by the U.S.A. Army Head Office (through Capt. Stauffer) to supply provisions for free refreshments to the soldiers and officers of the Army attending the Discussion Meetings. The Council accepted these offers, and resolved to convey their thanks to the authorities concerned. Council No. 6. 22-3-44.

Correspondence with regard to the preservation of old records of historical value from Mr. C. W. Gurner, a member of the Indian Historical Records Commission. (a) Record with thanks to Mr. Gurner for bringing this matter to the notice of the Council. (b) Arrange to duplicate and index the pre-Mutiny records that are in the Society's possession. (c) Engage a temporary assistant knowing typewriting for this specific work and for arranging the files that will be made over to the Society by the High Court on grade Rs.50—3—80 and refer to the Finance Committee for provision of money. (d) A memorandum showing the desirability of establishing a central Record Office for Bengal be prepared by the General Secretary, in consultation with Mr. L. R. Fawcett and be forwarded to the Governments of Bengal and of India. (e) These resolutions be placed before the next meeting of the Cultural Advisory Board for their consideration. Council No. 3. 23-6-44.

Consideration of replies received by the Society in response to the circular sent to all the members asking them suggestions (scientific and cultural) for Post-War Reconstruction. Record. (1) The general question was discussed with regard to the procedure to be adopted in making recommendations in connection with Post-War Reconstruction in cultural and scientific matters. It was resolved that the most convenient course to adopt would be for the Board to discuss separately each project which might be brought before it, and then embody the results of the discussion with regard to each matter in the form of a draft letter to the Department of Government concerned, the drafts with regard to each subject being placed before the Council for final approval before being issued. Copies of such letters should also be sent to the appropriate Post-War Reconstruction Committees. (2) Mr. Justice Edgley read a note with regard to the Archaeo-

logical Department and Post-War Reconstruction. After some discussion it was decided that he should be asked to prepare a draft letter for the consideration of the Council on the basis of this note, and to include therein a further recommendation with regard to the establishment of Travelling Archaeological Museums. (3) It was further resolved that Mr. Justice Edgley should be asked to prepare a draft on the basis of his note regarding the development of the tourist traffic in India after the war, in which it might be suggested that the Society would be prepared to co-operate with the proposed Travellers Department in giving advice to travellers on cultural matters, in introducing them to scholars and learned Societies and in compiling suitable hand-books about places of historical interest. (4) Record with thanks to Dr. W. D. West for the helpful note prepared by him on the basis of the replies received to the circular letter sent to the members. (5) Accept the suggestion of Dr. West regarding the preparation of a series of popular and illustrated booklets relating to the progress of Scientific Studies in Bengal with special reference to Bengal. Dr. West be requested to draw up a scheme for such a series of publications which would enable the Society to act as a liaison authority between the specializing bodies on the one hand and the interested public on the other. (6) Resolved that a special meeting of the Scientific Board be convened if possible before the next Council Meeting. (7) Record with thanks the notes prepared by Sir Cyril Fox on coal shortage and mineral resources of India. It was decided that his suggestions should be further considered at a meeting of the Scientific Advisory Board. Cul. & Sc. Adv. Bd. No. 1. 30-8-44.

Resolutions passed by the Council at their meeting on 23-6-44 on 'correspondence with regard to the preservation of old records of historical value from Mr. C. W. Gurner, a member of the Indian Historical Records Commission'. The notes recorded by Mr. Fawcett, Mr. Gurner and Mr. Justice Edgley were discussed. It was resolved that Government should be asked to expand the existing Historical Record Department into a Central Provincial Record Office to be housed in a building to be erected on a suitable site—preferably on part of the plot of land recently acquired to the north of the High Court. The Department would be under the control of the provincial Government, and to it would be transferred all the pre-Mutiny records of Government and the High Court (including such records from the mofussil) as might be conveniently transferred without causing administrative inconvenience. Arrangements for the re-organization of the records, their publication and making them available to research students would be made on the basis of the system which is now adopted by the Government of Bengal. As regards historical documents in private possession, Government might be asked to address persons likely to be in the possession of such documents with a view to ascertaining their nature and possible historical value. Mr. Justice Edgley was asked to prepare a draft letter on these lines for the consideration of the Council. Cul. & Sc. Adv. Bd. No. 2. 30-8-44.

Suggestion from Prof. A. V. Hill (communicated through Sir John Lort-Williams) that the Society should establish contact with the American Philosophical Society, Philadelphia, recently celebrating its bi-centenary (1743-1943). Record with thanks the suggestion of Prof. A. V. Hill, communicated by Sir John Lort-Williams; note be prepared on possible lines of collaboration with the American Philosophical Society for circulation. Cul. & Sc. Adv. Bd. No. 3. 30-8-44.

Draft of three letters prepared by the Hon'ble Mr. Justice Edgley *re* Post-War Cultural Reconstruction schemes. Thank Mr. Justice Edgley for the troubles he took in preparing the drafts. The drafts are approved and be sent to the departments concerned on behalf of the Society. Council No. 6. 8-9-44.

Recommendations of the Scientific Advisory Board meeting held on 5-9-44. Accept. The Board be requested to supply a panel of Editors and contributors for the preparation of the special book suggested by Dr. W. D. West. Council No. 7. 8-9-44.

Recommendations of the Scientific Advisory Board meeting held on 6-11-44. Dr. Guha and Dr. Elwin were co-opted as members of the joint Boards. Dr. Grant made a report with regard to the action taken by the Scientific Advisory Board since the last meeting. It was agreed (i) that as recommended by the Scientific Advisory Board a single volume rather than a series of booklets should be published by the Society, (ii) that Dr. West should be appointed the editor of the volume and that in this connection he should work with the co-operation of the members of the Scientific Advisory Board. He was also authorized to conduct all necessary correspondence with possible collaborators in connection with this work, (iii) it was recommended that the title of the volume should be 'Science and Post-War Development in India', (iv) each chapter should be written by a separate author and should be about 5,000 words long and should be well illustrated, (v) the following suggestions with regard to the chapter titles and the possible authors were approved:—

Chapter titles.

Authors.

Science and the Health of India	Rao Bahadur K. C. K. E. Raja or Dr. A. C. Ukil.
The Future of Veterinary Work in India ..	Dr. F. C. Minnett.
The Mineral Resources of India and their Utilization	Sir Cyril S. Fox.
The Fisheries of India	Dr. S. L. Hora.
The Utilization of India's Water Resources ..	Mr. C. C. Inglis.

<i>Chapter titles.</i>	<i>Authors.</i>
Archaeology as a National Asset	Dr. R. E. Mortimer Wheeler.
The Weathers of India	Dr. C. W. B. Normand or Dr. S. K. Banerji.
The Utilization of India's Forest Products	Author to be selected on the recommendation of Sir Albert Howard.
Aboriginal Tribes and their Administration	Dr. Verrier Elwin.
Agriculture (increasing production, breeding new strains, control of pests, mechanization, etc.)	Author to be selected on the recommendation of Sir Pheroze Khareghat.
Communications	Mr. N. C. Ghose or Mr. L. P. Misra.
Cul. & Sc. Adv. Bd. No. 1. 10-11-44.	

Proposal for the amendment of the Ancient Monuments Preservation Act (No. VII of 1904). Mr. Justice Edgley made a statement regarding the proposals which had been circulated to the members of both the Boards for the amendment of the Ancient Monuments Preservation Act. These proposals had met with general approval subject to some suggestions which had been embodied in the notes during the course of circulation. With regard to Mr. Baker's suggestion that only the substance of the proposed changes should be communicated to Government, the meeting considered that it would be more effective to address Government on the lines proposed in the draft. The sense of the meeting was also to the effect that some interference with private rights and private property was inevitable if any improvement of the Act was to be effected. It was considered that this was a question of policy which Government and the Central Legislature would consider in due course at the time of the introduction of the Amendment Bill and that it would be for Government and the Central Legislature to weigh the value of vested interest and private rights against the value of affording adequate protection to an important part of India's cultural heritage.

There was some discussion with regard to observation made in Dr. R. C. Majumdar's note dated 4-11-44 more particularly with regard to the desirability of reserving the right to the Central Government to prevent the removal from India of any antiquity which might be of unique or special national importance. The suggestions made in Mr. Justice Edgley's subsequent notes, dated 4-11-44 and 6-11-44, had been endorsed by Dr. Majumdar in his note dated 9-11-44 as meeting the points raised by him. It was agreed that the draft should be amended as suggested in Mr. Justice Edgley's notes dated 4-11-44 and 6-11-44. It was also agreed to accept Mr. Khaitan's suggestions (i) to the effect that the definition of Ancient Monuments should be made more precise in order to include only monuments which related to a period prior to 1858, (ii) that a reference should be made in the proposed section 20(2) in paragraph 4 of the draft to the operation mentioned in section 10 of the Act, (iii) that the words 'of unique or special national importance' should be used in connection with the proposed reservation of power to the Central Government to prevent the exportation of certain antiquities. In view of the urgency of the matter it was decided to circulate the revised draft as soon as possible to all members of the Council and to issue the letter to the Government of India immediately after the completion of the circulation unless any members of the Council objected to the adoption of this course. Cul. & Sc. Adv. Bd. No. 2. 10-11-44.

The question of establishment of a National Museum of Archaeology, History, Ethnology and Art. Mr. Percy Brown's draft regarding the establishment of a National Museum was approved subject to the following amendments: (i) the term 'Anthropological' should be used instead of 'Ethnological' in describing the main sections of the proposed Museum, (ii) a paragraph relating to the Anthropological section of the Museum should be inserted on the lines suggested by Dr. B. S. Guha and Dr. Verrier Elwin. It was also recommended as regards addressing the Government of India the course proposed in the case of the amendments to the Ancient Monuments Preservation Act should be followed in view of the urgency of the matter. It was also agreed that immediate steps should be taken by means of suitable propaganda to popularize the idea of the establishment of a National Museum as a War memorial on the lines suggested. Cul. & Sc. Adv. Bd. No. 3. 10-11-44.

The question of sending the copy of Government letters to all the cultural societies in India. It was agreed that copies of all letters addressed to Government in connection with the proposals by the Cultural or Scientific Board should be printed and circulated to all the leading cultural and scientific societies in India (as may be appropriate according to the nature of the recommendation) in order that the views of such bodies may be obtained by this Society and that such societies may be in a position to make their own recommendations to Government in connection with these matters. Cul. & Sc. Adv. Bd. No. 4. 10-11-44.

Draft prepared by Mr. Percy Brown on the subject of a proposal to establish a school of architecture in India. Accept the draft as revised by Mr. Brown and forward it to the Government of India after the Council's approval. Cul. & Sc. Adv. Bd. No. 2. 11-12-44.

A note regarding the financial implications of the scheme for the establishment of a National Museum. Approve the note prepared by the Sub-Committee with verbal alterations; issue the note as a supplement to the Society's previous letter on the subject after approval by the Council. Cul. & Sc. Adv. Bd. No. 3. 11-12-44.

Suggestion made by Mr. Justice Edgley with regard to the desirability of appointing a Cultural Commission of Enquiry. Decided that a Sub-Committee be constituted with the Hon'ble Mr. Justice Edgley, Mr. L. K. Elmhirst and Mr. K. P. Khaitan as members to consider the matter and prepare a memorandum for forwarding to the Government of India on the subject on behalf of the Society. Cul. & Sc. Adv. Bd. No. 4. 11-12-44.

Draft of a memorandum by Dr. W. G. Griffiths and Rev. W. J. Culshaw to be submitted to the Government of India on the subject the 'Policy regarding Aboriginal Tribes'. Decided that a Sub-Committee to be constituted with the Hon'ble Mr. Justice Edgley, Mr. Culshaw, Dr. Griffiths, Mr. L. R. Fawcett and Prof. K. P. Chattopadhyay as members with power to co-opt Dr. Elwin and Dr. Guha whenever they may be in Calcutta to consider the question and prepare a memorandum for forwarding to the Government of India on behalf of the Society. Cul. & Sc. Adv. Bd. No. 5. 11-12-44.

A note from Mr. C. W. Gurner with regard to the question of the development of National Parks for India. Decided that Mr. L. R. Fawcett be requested to draft a letter for forwarding to the Government of India on behalf of the Society, basing on the notes of Mr. Justice Edgley and Mr. Gurner on the subject. Cul. & Sc. Adv. Bd. No. 6. 11-12-44.

It was decided to circulate the pamphlet containing the Society's proposals with regard to cultural reconstruction to learned Societies in India, Indian States and certain Societies and Orientalists in England. Cul. & Sc. Adv. Bd. No. 10. 11-12-44.

Sub-Committee's report regarding the financial aspect of the proposal to establish a National Museum as approved by a joint meeting of the Cultural and Scientific Advisory Boards on 11th December for forwarding to the Government of India on behalf of the Society. Approved; forward to the Government of India on behalf of the Society. Council No. 13. 18-12-44.

Mr. Percy Brown's draft regarding the proposed establishment of a school of Indian Architecture as approved by a joint meeting of the Cultural and Scientific Advisory Boards on 11th December for forwarding to the Government of India on behalf of the Society. Approved; forward to the Government of India on behalf of the Society. Council No. 14. 18-12-44.

Letter from the Deputy Secretary to the Government of India, Dept. of Information and Broadcasting, asking whether the R.A.S.B. would take a hand in developing cultural relations between India and Afghanistan. (a) Extend hearty support of the Society with regard to the proposal. (b) Correspond with Mr. G. F. Squire, H.M.'s Minister at Kabul, and Sir Olaf Caroe, Foreign Secretary to the Government of India and ascertain from them the best way in which the Society can promote cultural relations between India and Afghanistan. (c) Exchange the letter part of the *Journal* beginning from the 3rd Series with the publications of the Kabul Literary Society. Council No. 4. 22-3-44.

ANNIVERSARY.—The question of arranging a Tea party at the special lecture by Prof. A. V. Hill, Secretary, Royal Society, early in February. (a) Arrange a Tea party at the lecture of Prof. Hill on 3rd February; (b) a maximum of 50 guests to be invited on behalf of the Council; (c) a circular letter to be sent to all the Resident Members intimating them that admission to the Tea party would be by cards, available at charge of Rs.2-8-0; (d) an endeavour should be made to get the rate of catering submitted by M/S. Flury & Trinca reduced from Rs.2-8-0 if possible; (e) accept with thanks the offer of a donation of Rs.125 from Dr. M. Ishaque for meeting the charges of 50 guests at the Tea party. Council No. 2. 19-1-44.

Congratulatory message from the President and Fellows of the Harvard College in connection with the 160th Anniversary of the foundation of the Society. Record. Council No. 10. 22-5-44.

ANNIVERSARY CENTENARY MEMBERS.—Report of election of (a) Prof. A. V. Hill, (b) Dr. Sir Baron Jayatilaka, and (c) Dr. L. Fang-Kwei as Special Centenary Members of the Society (recommendation approved by the Council by circulation). Approved. Council No. 12. 16-2-44.

ANNIVERSARY CENTENARY VOLUME.—The question of publishing the 160th Anniversary Centenary Volume. An amalgamated index of all Society's publications up-to-date be prepared and published. Implement the resolutions already adopted on 26-2-34 with regard to the preparation and publication of the Bi-Centenary Volume and use the surplus amount (Rs.1,120-12-6) available from the 150th Jubilee Celebration for the preparation and publication of the volume. 160 Ann. Cel. Com. No. 1. 5-6-44.

Letter from Sir Lewis Fermor dated the 9th May, containing suggestions regarding the publication of the Bi-Centenary Volume. To be noted and recorded. Dr. West urging immediate working of the plan; the Index to be simultaneously a subject and author one, and that all memoranda, letters and important documents, etc., to be copied as duplicates for our permanent 'archives' and for reproduction in the Bi-Centenary Volume, as far as practicable. 160 Ann. Cel. Com. No. 3. 5-6-44.

ANNUAL MEETING.—Acceptance by H.E. the Governor of Bengal of the invitation to preside over the Annual Meeting of the Society in February 1944. Record with thanks. Write to the Secretary to H.E. the Governor of Bengal requesting the new Governor to accept the Patronage of the Society. Council No. 11. 19-1-44.

ASSOCIATE MEMBERS.—The question of the re-election of Miss M. L. W. Cleghorn as an Associate Member of the Society for a further period of five years. Propose the name of Miss Cleghorn to the next Ordinary Monthly Meeting for the re-election as an Associate Member for a further period of five years as prescribed in Rules 2 and 13. Council No. 3. 18-12-44.

BIBLIOTHECA INDICA.—Consideration of entrusting the editing of the catalogue of Vaidyaka MSS. to Prof. D. C. Bhattacharyya. Prof. D. C. Bhattacharyya (Hughly Mohsin College) be entrusted with the work, on the usual terms, Re.1-8-0 per printed page. Bib. Ind. Com. No. 2. 17-1-44.

The question of the reprinting of (1) Lalita Vistara, (2) Surya-Siddhanta, (3) Chaturvarga Chintamani, (4) Nyaya Varttika, fasc. 1, (5) Sahitya Darpan. *Lalita Vistara* be not undertaken by the Society in view of the fact that a new edition of it is in hand by Dr. B. C. Law. *Surya-Siddhanta* be not taken in hand by the Society, in view of the fact that the Calcutta University has recently published an English translation. (3), (4) and (5) be not undertaken by the Society as other editions are available. Bib. Ind. Com. No. 3. 17-1-44.

The Committee recommended the publication of the following works: (1) *Asokavadana* (text and English translation) be published by the Society and the editorial work be entrusted to Prof. Manomohan Ghose (Calcutta University); (2) An English translation of *Natya Shastra* be prepared by Prof. Manomohan Ghose and published by the Society, prior to the publication of *Asokavadana*; (3) A reprint of Jolly's translation of *Narada Smṛti* and *Vishnu Smṛti* be immediately undertaken by the Society, as they have been long out of print and there is a steady demand for them. Care should be taken to be sure that there is no other English translation of these books in the market. Bib. Ind. Com. No. 4. 17-1-44.

Printing of Saddharma Pundarika edited by Mironov. That the book be reprinted with the notes of Mironov, and eliminating all obsolete or incorrect notes of the original edition. That the Pandit be ordered to assist Dr. N. Dutt in editing it. Bib. Ind. Com. No. 2. 21-3-44.

Printing of Sutta Samgaha with translation by E. P. Choudhury and D. P. Guha. Ordered the MS. to be transcribed as suggested in Dr. N. Dutt's report. Bib. Ind. Com. No. 3. 21-3-44.

Fixation of remuneration for editing Asokavadana, Natya Sastra and Sutta Samgaha. (a) Asokavadana—the usual rate per printed page (B.I.); (b) Bharat N.S.—ordered the case to be brought up at the next meeting and the various existing editions of the work be placed on the table; also Dr. Ghose be asked to report fully on the MSS. he intends to use; (c) Sutta Samgaha—postponed for the present. Bib. Ind. Com. No. 4. 21-3-44.

Dr. Ishaque's letter about Mirsadul Ibad. That Mr. L. S. Dugin be informed that if he sends to the Society the press copy of the Text and Translation in a complete form, the Society will sympathetically consider the question of printing it and if the Society decides to print it, he will be paid the usual remuneration for editing. Bib. Ind. Com. No. 5. 21-3-44.

Rauzat-ul-jinnat fi'awsaf i Harat, by Mu'innuddin Al. Jamchi-al-Isfuzan (R.A.S.B.'s MS.) be entrusted to Dr. M. Ishaque for editing. Bib. Ind. Com. No. 6. 21-3-44.

Plan of work about the editing and translating the Natya Sastra submitted by Dr. M. M. Ghose and the fixation of his remuneration. The matter be postponed for the present and enquiries be made about (1) Baroda plans of concluding half of the text, and (2) the existence of MSS. of Abhinavagupta's commentary. Bib. Ind. Com. No. 1. 19-5-44.

Consideration of a proposal of publishing Seir-ul-Mutaksherin. Dr. M. Z. Siddiqi be requested to make certain enquiries about autograph copies of the text and report to the Committee. A revised and full translation in English be undertaken first of all. Bib. Ind. Com. No. 4. 19-5-44.

Consideration of a proposal to give clerical assistance to Sir J. N. Sarkar in preparing a new edition of Ain-i-Akbari (Eng. Trans.). Acceopt. Bib. Ind. Com. No. 5. 19-5-44.

Proposal to print Kavikarnapura's Sanskrita-Parasika-pad-prakasa (Fort William College collection). Dr. S. K. Chatterji to report. Bib. Ind. Com. No. 6. 19-5-44.

Proposal to bind one copy each of the Society's publications and keep them in the Publication Department for reference. Bind. Cost to be debited to Publication Fund. Pub. Com. No. 12. 3-11-44.

Completion of Kiranavali. Complete the text. Bib. Ind. Com. No. 4. 29-11-44.

Fixation of remuneration for editing and translating Bibliotheca Indica works. Rs.2 for editing and Rs.3 for translation; special remuneration may be settled for special cases. Bib. Ind. Com. No. 2. 29-11-44.

Translation of Natyasastra. Translation be taken up. Bib. Ind. Com. No. 3. 29-11-44.

Report on the transcription of the Sutta Samgaha from Society's Burmese collection. Editing be taken up. Bib. Ind. Com. No. 5. 29-11-44.

BOOK REVIEWS.—Consideration of the present position of reviews. (Note: Of the 31 reviews outstanding eight have been received as a result of the reminders, sent as per Library

Committee recommendation of 14-8-44. Four more have been promised and for two information has been received that books would be returned.) Request for return of books for the reviews outstanding. For books received during September-October 1944, arrange for reviews as follows: (1) D. N. Majumder: *The Fortunes of the Primitive Peoples* (one copy)—Dr. W. G. Griffiths; (2) Verrier Elwin—*Folk Tales of Mahakoshal* (two copies); (3) Verrier Elwin and Shamrao Hivals: *Folk Songs of the Maikail Hills* (two copies)—Dr. W. G. Griffiths; (4) P. C. Gupta: *Last Peshwa and the English Commissioners* (one copy)—Dr. N. K. Sinha; (5) Muhammad Karim: *Sawanihat-i-Mumtez*, pt. 2 (one copy)—Prof. M. M. Haq; (6) Gitamanjari, an anthology of old Rajasthani Bardic songs (two copies)—Mr. K. P. Khaitan. Liby. No. 6. 3-11-44.

The Librarian reported that the following books have been received for review in November 1944:—

- (1) Subrahmanya Sastri: *Lectures on Patanjali's Mahabhasya* (one copy).
- (2) Indrajit Singh: *Gondwana and the Gonds* (one copy).

Arrange for reviews by: (1) Mr. Ksitit Chandra Chatterjee; (2) Prof. K. P. Chattopadhyay. Liby. No. 7. 8-12-44.

COMMITTEES.—Constitution of the Standing Committees of the Society for 1944-45. The Committees to be constituted as follows:—

(a) *Library Committee.*—President, General Secretary, Treasurer, Philological Secretary, Jt. Philological Secretary, Natural History Secretary (Biology), Natural History Secretary (Phys. Science), Anthropological Secretary, Library Secretary, Historical and Archaeological Secretary, Medical Secretary, *ex-officio*, and Khan Bahadur K. M. Asadullah. (Chairman: Dr. S. P. Mookerjee; Secretary: Dr. R. C. Majumdar.)

(b) *Publication Committee.*—All *ex-officio* members and Dr. S. K. Chatterji. (Chairman: Dr. S. P. Mookerjee; Secretary: Dr. K. Nag.)

(c) *Finance Committee.*—President, General Secretary, Treasurer, *ex-officio*, Dr. S. L. Hora, The Hon'ble Mr. Justice N. G. A. Edgley, Mr. Percy Brown, and Mr. K. P. Khaitan.

(d) *Programme Committee.*—President, General Secretary, Treasurer, *ex-officio*, The Hon'ble Mr. Justice Edgley, Dr. K. N. Bagchi, Dr. W. G. Griffiths, Dr. R. C. Majumdar, Mr. L. R. Fawcus, Mr. Percy Brown, and Dr. W. D. West. (Chairman: The Hon'ble Mr. Justice Edgley; Secretary: Dr. K. Nag.)

(e) *Bibliotheca Indica Committee.*—President, General Secretary, Treasurer, *ex-officio*, Dr. S. K. Chatterji, Dr. N. Dutt, Dr. M. Z. Siddiqi, Dr. B. C. Law, Sir J. N. Sarkar, Dr. M. Ishaque, Dr. P. C. Bagchi, Prof. M. M. Haq, and Dr. Satkori Mukherjee. (Chairman: Sir J. N. Sarkar; Secretary: Dr. K. Nag.) Council No. 4. 16-2-44.

Letter from Dr. S. L. Hora raising the question of the participation by the Society in any discussion on the programme of the post-war scientific, industrial and cultural reconstruction of India. (1) Approve the proposal of Dr. Hora. (2) Two permanent Advisory Boards—scientific and cultural—be constituted with powers to formulate post-war reconstruction schemes relating to Science and Culture; such schemes, after due scrutiny by the Boards, should be placed before the Council for their approval, and in due course be forwarded to the proper authorities for necessary action. (3) The Boards to consist of:

Scientific.

Dr. M. N. Saha, Dr. B. C. Law, Dr. S. P. Agharkar, Dr. K. N. Bagchi, Dr. W. G. Griffiths, Dr. J. B. Grant, Dr. S. L. Hora, Dr. W. D. West.

Chairman: Dr. J. B. Grant; Secretary: Dr. W. D. West.

Cultural.

Dr. S. P. Mookerjee, The Hon'ble Mr. Justice N. G. A. Edgley, Dr. R. C. Majumdar, Dr. Kalidas Nag, Mr. C. W. Gurner, Dr. N. Dutt, Dr. M. Z. Siddiqi, Dr. B. C. Law, Mr. L. R. Fawcus, Mr. Percy Brown, Dr. M. Ishaque, Mr. K. P. Khaitan, Mr. S. Druequer.

Chairman: The Hon'ble Mr. Justice N. G. A. Edgley; Secretary: Dr. Kalidas Nag.

(4) The Boards to have power to co-opt additional members. (5) Each Board to appoint its own Chairman and Secretary in conformity with Rule 63. (6) The first meetings of the Boards to be convened by the General Secretary. Council No. 17. 16-2-44.

Co-optation of additional members. Decided that Messrs. S. K. Chatterji, L. K. Elmhirst, K. K. Sen, W. J. Culshaw and M. M. Haq be co-opted additional members of the Cultural Advisory Board. Cul. & Sc. Adv. Bd. No. 1. 11-12-44.

COUNCIL.—The question of the continuation of the travelling allowance of Rs.150 to the General Secretary for the year 1944-45 (letter relating thereto from Dr. S. L. Hora to the President, R.A.S.B.). Continue and submit for confirmation by the next Monthly Meeting as prescribed in Rule 48(d). Council No. 20. 16-2-44.

Letter dated 12-12-44 from Dr. W. D. West concerning making provision in finance for a full-time General Secretary. The cashier to prepare a note with reference to next year's budget for consideration of the Council. Fin. Com. No. 16. 12-12-44.

Consideration of Composition of Council for 1945-46. After discussion it was resolved that the following names be declared as Council's candidates for election to next year's Council, and that the list be ordered to be issued to the Resident Members as prescribed in Rule 44:—

President	Professor M. N. Saha.
Vice-President	The Hon'ble Mr. Justice N. G. A. Edgley.
"	Dr. R. C. Majumdar.
"	Dr. M. Z. Siddiqi.
"	Dr. S. P. Agharkar.
General Secretary	Dr. K. Nag.
Treasurer	Mr. K. P. Khaitan.
Philological Secretary	Dr. N. Dutt.
Jt. Philological Secretary	Dr. M. Ishaque.
Biological Secretary	Dr. S. L. Hora.
Physical Science Secretary	Dr. K. N. Bagchi.
Hist. and Arch. Secretary	Dr. B. C. Law.
Medical Secretary	Dr. I. B. Bose.
Anthropological Secretary	Dr. W. G. Griffiths.
Library Secretary	Dr. N. Dutt.
Member of Council	Mr. C. W. Gurner.
"	Mr. L. R. Fawcus.
"	Mr. Percy Brown.
"	Dr. W. D. West.
"	Maharajadhiraja Bahadur U. C. Mahtab of Burdwan.
"	Mr. A. P. Benthall.

The Council expressed the opinion that the President should ordinarily change every year. Council No. 25. 18-12-44.

DISCUSSION MEETINGS.—Letter from Dr. B. C. Law suggesting that the talks at the Discussion Meetings be published in a book form by the Society. (1) Accept. Dr. Law's suggestion in the light of the Hon'ble Mr. Justice Edgley's observations on the subject contained in his note dated 12-2-44. Collect as many abstract of the talks at the Discussion Meetings as possible from the beginning to date with a view to their publication. (2) Have the abstracts of the talks, questions, answers, etc., at all Discussion Meetings published in the *Advance Proceedings* following the procedure already adopted in 1934 after the 150th Jubilee. (3) The main talks should not be published *in extenso*, but be limited to three pages of printed matter. (4) The Hon'ble Mr. Justice Edgley's proposal in his note dated 12-2-44 was accepted as regards exhibits at the Monthly Meetings. Council No. 1. 16-2-44.

Letter from Dr. B. C. Law suggesting that the lectures delivered at the Discussion Meetings be published in a book form by the Society. Approve the suggestion: get estimates for printing when materials are ready, and refer the matter to the Finance Committee for necessary funds. Pub. Com. No. 1. 16-2-44.

To consider the grant of Rs.500 from the Welfare and Amenities Branch of the British Army and the offer of help from the American military authorities in connection with the provision of teas for the troops who attend the Discussion Meetings. Thanks of the Society be conveyed to General Cheves of the American Army, Major Ellis of the Welfare and Amenities Branch of the British Army, Capt. Stauffer and J. Comdr. D. Gill for the great interest they have taken in the Discussion Meetings and for providing free teas to the members and officers of the Allied Forces attending these meetings. Prog. Com. No. 3. 23-3-44.

The programme for April and May. Approved. It was decided to provide free teas to members of the Allied Forces in uniform at Discussion Meetings with effect from 20-4-44. The members of the Society who require tea for themselves or their guests will be charged eight annas a head according to the existing arrangement. Tea will be served from 6 p.m. and the Discussion Meeting will begin at 6-30 p.m. Capt. Stauffer to be notified two days before the meeting of requirements as regards food. Prog. Com. No. 5. 23-3-44.

Advance Proceedings. (1) The publication of the Advance Proceedings be kept in abeyance till conditions become normal. (2) Further talks at the Discussion Meetings be published in subsequent volumes of the special publication if funds be forthcoming. Council No. 17. 23-6-44.

Appointment of a Chairman of and a Secretary to the Editorial Board. The Hon'ble Mr. Justice Edgley and Dr. Nag be appointed Chairman and Secretary respectively. Edit. Board Spl. Pub. No. 2. 11-7-44.

Scrutiny of manuscripts received and appointment of editors for papers from among the members of the Board. The Chairman, Mr. West, Mr. Khaitan and the Secretary to form editors. Edit. Bd. Spl. Pub. No. 4. 11-7-44.

DONATIONS AND GIFTS.—Letter from Dr. B. C. Law, dated 21-2-44, offering (a) suggestions for the printing and publishing the popular lectures in a book form, and (b) a donation of Rs.3,000 towards printing expenses of the book. Accept the offer of Dr. Law with thanks

and utilize the donation for the special publication for which it has been made. Council No. 5. 22-3-44.

Report receipt of Rs.3,000 from Dr. B. C. Law as donation towards meeting expenses of printing and publishing popular lectures in a book form. Record with thanks to the donor. A meeting of the Editorial Board of the special publication be called for Tuesday, the 11th July, at 5 p.m. Council No. 10. 23-6-44.

Letter from Dr. B. C. Law making a gift of 23 lantern slides and offering to bear the entire cost of preparing the blocks to illustrate his paper in the special publication. Accept with thanks to Dr. Law. An effort should be made to start a collection of lantern slides for the Society, with special reference to India. Prepare a list of subjects in the first instance for which slides may be made either by the Society or by the donors. Council No. 3. 16-8-44.

Report receipt of a grant of Rs.500 from the National Inst. of Sciences of India, out of the Rockefeller Foundation grant entrusted with them for distribution, and consideration of the conditions governing the grant made to the Society. Accept with thanks and the money must be utilized for publication only in terms of the conditions governing the grant. Council No. 2. 7-11-44.

ELLIOTT PRIZE.—Recommendation of the Trustees of the Elliott Prize for the award of the medal for 1944 (Mathematics). Accept the recommendation, Dr. S. K. Chakrabarty. Council No. 8. 18-12-44.

EXCHANGES.—Request from Sir Jadunath Sarkar, President, Bangiya Sahitya Parishad, for placing the Parishad in the free list of the Society's Journal and Publications. Grant and ask for reciprocal courtesy. Lib. Com. No. 3. 16-2-44.

Letter from Prof. O. C. Gangoly requesting that a full set of *Harvard Journal of Asiatic Studies* be procured for the Society's Library. Request exchange. Lib. Com. No. 3. 21-4-44.

Letter from Ramavarma Research Institute, Trichur, requesting an exchange of the Society's *Journal* with the *Bulletin* of the Institute. Grant exchange with Letters part of the *Journal* from 1944. Lib. Com. No. 7. 21-4-44.

Letter from the Associate Editor, *Harvard Journal of Asiatic Studies*, intimating acceptance of the Society's proposal for exchange of the *Journal* with the *Harvard Journal of Asiatic Studies*, with retrospective effect. Record and take action. Lib. Com. No. 5. 5-9-44.

FINANCE.—Provision of money for the proposed new temporary appointment of an Assistant for the files on Rs.50—3—80. Provide from the General Fund. Fin. Com. No. 6. 16-8-44.

Letter from the Imperial Bank of India requesting to authorize the Treasurer, R.A.S.B., to endorse the G.P. Notes for Rs.8,000 on behalf of the Society so as to enable them to keep them in safe custody. Recommend to the Council to authorize the Treasurer to sign the notes on behalf of the Society. Fin. Com. No. 4. 22-3-44.

The question of further investment. Recommend to the Council to invest Rs.20,000 in 3% War Bonds from the following funds through the Imperial Bank of India: (a) Rs.5,000 Oriental Publication Fund No. 1, (b) Rs.5,000 Sanskrit MSS. Fund, (c) Rs.10,000 Publication Fund. Fin. Com. No. 9. 24-4-44.

Application from the staff of the Society re. dearness allowance (referred to the Finance Committee by the Council, dated 27-5-44). Increase the present dearness allowance with effect from 1st of July as follows: Rs.11 to those drawing a salary of Rs.34 and under and Rs.15 to those drawing Rs.35 and above, with exception of anyone getting more than Rs.15 now will continue to get it. Fin. Com. No. 6. 24-7-44.

Letter from Imperial Bank of India, dated 16-9-44, regarding investment of Rs.4,000 in connection with the S. C. Roy Medal. Recommend to the Council that the amount in question be invested in 3% Victory Loan (1957) and that the Imperial Bank of India, Park Street Branch, be authorized to effect the purchase to debit of the Society's account with them. Fin. Com. No. 4. 7-11-44.

Recommendation of the Special Finance Committee Meeting (Consideration of the budget estimates for 1945). Approved: take Rs.3,000 as proportionate quota from the Publication Fund (instead of Rs.2,000) according to the recommendation of the Special Enquiry Committee. Council No. 16. 18-12-44.

GRAFLEX CAMERA.—Letter from Prof. P. C. Mahalanobis, Director of the Statistical Laboratory, Presidency College, offering to house the Society's microfilm camera in the Presidency College, for the duration of the war. Accept the offer on the terms of Prof. Mahalanobis for housing the camera in the Presidency College for the duration of the war. Council No. 2. 10-2-44.

FELLOWS.—Recommendations of the meeting of the Resident Fellows on 1-1-44. Accept; put up the name of Dr. G. S. Bose for election at the Annual Meeting in conformity with Nos. 17 and 18 of the 'Regulations regarding the election of Fellows'. Council No. 4. 19-1-44.

INDIAN SCIENCE CONGRESS ASSOCIATION.—Letter from the General Secretary, I.S.C. Association, with regard to the ownership and delivery of the stock of publications, now kept in the Society's rooms. Rs.2,250 to be paid by the I.S.C. Association for taking away the publications; publication to be handed over, *pro rata*, as payments are made in accordance with the offer, viz. payment by three instalments; the amount due to I.S.C.A. on account of the special publications to be adjusted with the amount due to the Society. Council No. 12. 24-7-44.

LIBRARY.—Library Secretary's recommendation regarding the administration of the Library and the Library Staff. Approve in an amended form as given below. Recommend to Council for sanction and incorporation into Library Regulations. (1) The staff attached to the Library in all its sections shall be directly under the care and supervision of the Librarian. (2) The Librarian shall maintain an Attendance Register as well as a Diary for the staff, to be countersigned by him every day. (3) All bills relating to purchase of books shall be certified by the Librarian before payments are made. The certificate should include the accession numbers assigned to the books. (4) No expenditure on any other item pertaining to the Library, e.g., binding, preservation, etc., shall be sanctioned except after a report from the Librarian and no payment shall be made on that account without a certificate from the Librarian. (5) No papers or correspondence, etc., pertaining to the Library shall be referred by the office direct to any member of the Library staff other than the Librarian. (6) The Librarian shall be furnished with imprest-money, not exceeding Rs.25 to meet contingent expenses, relating to the Library, which amount shall be recouped at the end of every month. (7) The Librarian shall maintain a Register showing the monthly requirements of stationery by the members of the Library staff, which shall be supplied from the General Office on the last day of each month. Lib. Com. No. 2. 28-3-44.

Question of better arrangement for the Librarian's office and Members' reading-room. In view of the fact that large number of books are being lost for many years, the Librarian's office and the reading-room be removed to the hall now occupied by the General Office, and arrangement be made for closing four of the six doors with expanded metal or strong wire-netting and providing the remaining two with door-panels to enable the room being locked. -After the above arrangements are carried into effect a proper stock of the Library should be taken and the Library staff shall be held responsible for any loss of books thereafter. Pending the completion of the above arrangement it is recommended to the Council to take severe steps, including dismissal, against any member of the entire staff of the Society in the case of any further loss of books. Liby. Com. No. 2. 21-4-44.

Letter from Major Basil Clarke, Army Education Corps, requesting some kind of arrangement for lending out books from the Library in connection with his work in the army. Recommend that on the recommendation of the Army Liaison Officer use may be made of the Library within the premises of the Society. Liby. Com. No. 6. 21-4-44.

Provision of money for the approved scheme of repairing and binding works of the Society's collections. Recommend to the Council to provide the necessary sum from the Sanskrit Manuscript Fund Account for giving effect to the scheme, including a capital expenditure of Rs.1,500 and the appointment of five menders on scales of pay as mentioned in the scheme. Fin. Com. No. 5. 24-4-44.

Recommendations of the adjourned meeting of the Library Committee of 28-3-44 containing proposals for additional Library Regulations. Accept. (1) Necessary alterations in steel shelving and (2) new Regulations as amended, and report for information of the Ordinary Monthly Meeting as prescribed in Rule 48(a). In view of repeated attempts to smuggle out and steal Society's properties, every case of theft should immediately be reported to the General Secretary and the Council, and peremptory steps be taken to recover the lost properties including books, MSS., and other effects. Police should ordinarily also be informed by the General Secretary as soon as the theft is brought to his notice. Council No. 6. 24-4-44.

Proposal for some alteration work in the steel shelving for books in the Library. Approve. Accept tender for Rs.450 from Bungo Steel Furniture, Ltd. for removal and re-erection of steel racks and recommend to the Council for payment of the expenditure after the work is completed. Adjourned meeting Liby. Com. No. 1. 28-4-44.

Consideration of estimate for rearrangement of Librarian's office, Members' reading-room and for the safeguarding of the corridors downstairs. Postpone. Call for further estimates and write to the Steel Controller for wire-gauze. Liby. Com. No. 4. 19-5-44.

Report on (1) Walker : Jenghiz Khan, and (2) Le May : A concise history of the Buddhist art in Siam, duplicates in the Library. Offer the books to the University Library at cost price and credit the amount to the budget allotment for book purchase for the year. Liby. Com. No. 7. 19-5-44.

Letter from Mr. B. M. Agrawal requesting to keep the Library open till 6-30 p.m. on meeting days. Keep the Library open till 5-30 p.m. on the days of the Monthly Meetings. Liby. Com. No. 5. 17-7-44.

Consideration of estimate for the rearrangement of Librarian's office and Members' reading-room and for the safeguarding of the Library downstairs. Approve estimates of Modern Cabinet

Makers for items Nos. 2 and 5 for which ask for reduction in the light of estimates for those items from Chakravarti & Co. If reduction is not agreed to, approve estimates of Chakravarti & Co. for these items. Ascertain estimates for paints and polish before finally accepting estimates. Liby. Com. No. 6. 17-7-44.

List of books overdue. (1) Send *chaprasi* with loan slips for collecting overdue books. (2) Enforce regulations. (3) Recommend the following addition to item No. 12 'and in no case shall the borrower be permitted to retain the books for more than one month thereafter'. Liby. Com. No. 9. 17-7-44.

Recommendations of the Library Committee of 17-7-44. Accept. (a) With regard to item No. 4 (the question of bringing back rare possessions of the Library from Benares) it was resolved that preliminary steps be taken for transport of the bookcases, etc.; meanwhile the matter should be circulated to the Council for consideration at their next meeting. (b) With regard to item No. 5 (estimate of Modern Cabinet Makers for the rearrangement of Librarian's room, etc.), accept the estimate of the Modern Cabinet Makers on the lines recommended by the Library Committee. Council No. 3. 24-7-44.

Preparation of a list of Library holidays for future guidance of the staff and members. General Secretary to prepare a list of holidays for the Library and for the office. Liby. Com. No. 9. 14-8-44.

Preparation of a list of holidays for the Library. Request Khan Bahadur Asadullah to draw up a list. Liby. Com. No. 7. 5-9-44.

Question of a stock-taking of the Library. (Note: The arrangements, preliminary to a stock-taking as per Library Committee Recommendation, dated 21-4-44, are complete.) Postpone. Bring up the question for consideration in February, 1945. Liby. Com. No. 4. 3-11-44.

Librarian's note regarding the present position of the scheme for preservation of manuscripts, books, etc., in the Society's Library (postponed since last meeting on 5-9-44). (Note: Since the above note was submitted 32 lb. of Thymol and 56 lb. of Paradicholorebenzene have been received and arrangements are being made for operating the two fumigation chambers. The Bengal Chemical Co. have intimated their inability to supply any paste whatsoever and no lamination can be undertaken unless provision is immediately made for good paste.) Record. Liby. Com. No. 5. 3-11-44.

Question of the provision of an additional grant on binding account. (Note: The amount budgetted this year for this purpose is Rs.1,500 against Rs.2,000 of 1943. 601 books have been bound up to 31st September, 1944, involving a cost of about Rs.1,400. Bills to the amount of Rs.252-1-0 are pending. There are a large number of old and rare books requiring binding and in view of these an extra grant of Rs.500 is desirable.) Request Council for an additional amount of Rs.500 only. Liby. Com. No. 9. 3-11-44.

MANUSCRIPTS, CATALOGUING OF.—Cataloguing of the Arabic and Persian MSS. Recorded the assent of the cataloguers, Drs. Imam and Habibullah to the Society's proposal regarding cataloguing and remuneration. Bib. Ind. Com. No. 1. 17-1-44.

The question of cataloguing of the Hindi and Rajasthani MSS. belonging to the Society. Approve and start correspondence with Mr. G. D. Birla in connection with the financial support that he has promised for the purpose. Pub. Com. No. 2. 16-2-44.

The question of cataloguing the Burmese collection in the Society's Library. Approve and consult the Burma Government with regard to it. Pub. Com. No. 6. 16-2-44.

Question of the continuance of cataloguing work in the Sanskrit section of the Library. Continue, but at a reduced rate of annas three per manuscript. Request Drs. Habibullah and Imam for a monthly report on the progress of their cataloguing in the Islamic Section. Liby. Com. No. 6. 21-3-44.

Question of cataloguing Rajasthani MSS. in the Sanskrit section of the Library for which, the General Secretary reported, Mr. G. D. Birla has made a donation of Rs.5,000. Thank Mr. Birla for his kind donation. Postpone consideration till the MSS. are brought down. Liby. Com. No. 8. 21-3-44.

Tibetan manuscripts. Recommend to the Council that an amount of Rs.1,200 be provided from the Society's general fund for expenses to be incurred in preliminary survey and report regarding the Tibetan MSS. belonging to the Society. If possible the services of an English-knowing Lama be engaged during the ensuing cold weather. Fin. Com. No. 7. 21-4-44.

Application from Cataloguers, Sanskrit Section, for restoration of the former rate for cataloguing manuscripts, namely, four annas per manuscript. (Note: The rate was reduced to three annas per MS. at the last meeting of the Library Committee held on 21-3-44.) Restore the former rate of four annas per MS. from May 1944 till the end of the War. Liby. Com. No. 8. 21-4-44.

Question of cataloguing of Tibetan Xylographs. Accept report of Dr. N. Dutt recommending appointment of Mr. L. M. Dorji for cataloguing the *bsan gyar* collection on piece-work basis, at the rate of six annas per set of two slips for each work. Liby. Com. No. 8. 17-7-44.

Letter of Mr. L. P. Sukul on the question of the cataloguing of Hindi manuscripts in the possession of the Society. Inform that arrangements are made for cataloguing Hindi MSS. and convey Society's thanks for offer of co-operation. Liby. Com. No. 6. 14-8-44.

Question of the preparation of a full descriptive catalogue of the Indian Museum collection of manuscripts. (1) Publish the summary catalogue of MSS. of the Indian Museum collection with an introduction not exceeding 100 pages, noting the important MSS. Entrust the work to Pandit Nani Gopal Banerji, M.A. (2) Arrange thereafter for the preparation of a descriptive catalogue of this collection as soon as circumstances permit. (3) Pay remuneration to Pandit Nani Gopal Banerji for preparing and seeing the summary catalogue through the press at the rate of Rs.10 per 100 entries and a separate remuneration for the Introduction at the usual rate paid to the editors. (4) Pay Rs.125 as remuneration to Pandit Nani Gopal Banerji for scrutinizing the slips prepared by Pandits Jagadish Bhattacharya and Ramdhan Bhattacharya as instructed by the General Secretary. Liby. Com. No. 3. 5-9-44.

Question of the manner of payment of remuneration to Pandit Nani Gopal Banerji for preparing the summary catalogue of the Indian Museum collection of manuscripts. (Note : Vide Library Committee Recommendation No. 3 of 5-9-44.) Advance 75% of his remuneration monthly on the basis of number of entries made ready for the press, the remaining 25% to be paid after the catalogue is printed off. Liby. Com. No. 7. 3-11-44.

Plan for the utilization of the Society's rare MSS. and preparation of press copies for publishing some of them. Slip catalogue of 4,550 MSS. be prepared on piece system. Bib. Ind. Com. No. 1. 29-11-44.

MANUSCRIPTS, LOAN OF.—Request from the Director, Cheena Bhavana, Visva-bharati, for loan of the MS. of Vajrasuchi by Asvaghosa. Grant on an indemnity bond of Rs.100 only. Liby. Com. No. 3. 19-1-44.

The question of the recovery of the manuscript 'Laghu Kala Chakra' lent to Prof. G. Tucci (a well-known scholar and member of the Italian Accademia Regia, Italy) from the Society's Library. Intimate the matter to Mr. J. D. Tyson, C.B.E., J.C.S., Secy. to the Govt. of India, Dept. of Edn., Health and Lands, and request his kind offices for the recovery of the MS. through the administrative authorities in Southern Italy who may be able to contact Prof. Tucci with regard to its recovery. Council No. 17. 22-3-44.

Recommendations of the Library Committee of 19-5-44. Accept. With regard to item No. 2, the loan of four MSS. to the Bhandarkar Oriental Research Institute, Poona, recommended by the Library Committee, resolved that as lending more than two manuscripts at a time is contrary to the 'Regulations', special sanction for the loan of the four MSS. should be obtained by referring the matter to the General Meeting. In order that the members of the Council might know the details of the business transacted at the various Committees, it was resolved that the Committee meetings should ordinarily be held one week in advance of the Council meeting so that it might be possible to get the minutes circulated in due time. Council No. 4. 22-5-44.

Application from Mr. D. Guha for the loan of the MS. Sutta-Sangaha belonging to the Society, recommended by the Philological Secretary, Dr. N. Dutt. The manuscript be issued on loan to the Philological Secretary. Council No. 12. 22-5-44.

Letter from Dr. Stella Kramrisch for permission to publish a note on the MS. of the Devi-Mahatmya (IM. 10336) with reproductions of three or four illustrations contained therein in the Journal of the Indian Society of Oriental Art. Grant permission. Lend manuscript for preparation of the books on bond on usual conditions. Request use of blocks by this Society if required. Liby. Com. No. 4. 13-6-44.

Request from the Principal, Visvabharati, Vidyabhavana, for an extension of the loan of four manuscripts of the Mahabharata for three months. Grant extension of loan till 25-10-44. Liby. Com. No. 2. 14-8-44.

Request from the Curator, Bhandarkar Oriental Research Institute, Poona, for loan of two manuscripts of the *Caraka Samhita*. (Note: The following manuscripts may be available on loan, each against an indemnity bond as under):—

	Rs.
II H. 28 Caraka Samhita : Sarirasthana	25
III B. 57 Caraka Samhita: Paneakarmadhikara. (Bound with it are Vyakhya Madhukosa by Vijaya Raksita and Madhava-Nidana)	275

Grant on usual conditions against Indemnity Bonds as above. Liby. Com. No. 2. 3-11-44.

Request from the Principal, Visvabharati, Vidyabhavana, for loan of three manuscripts of the *Mahabharata*. (Note: The following manuscripts may be available on loan, each against an Indemnity Bond as follows:—

G. 10773 Mahabharata, Rs.50; G. 7989 Mahabharata, Rs.125; G. 36748 Mahabharata, Rs.300.

The manuscripts are required for collection on behalf of the Bhandarkar Oriental Research Institute and in view of the importance of the work the regulation limiting the loan of MSS. to two at a time may be relaxed.) Grant on usual conditions against Indemnity Bonds as above. Liby. Com. No. 3. 3-11-44.

Request from Dr. Nihar Ranjan Ray for permission to reproduce illustrations on the covers of the Manuscript of *Sivadharmā* in the Society's Library and for loan of the covers for preparation of blocks. (Note: The paintings, directly on the wooden covers of the MS. No. G. 4077, are gradually peeling off, and coloured reproductions are essential for the purpose of record.) Grant. Lend two covers against an Indemnity Bond of Rs.50 only with the request that they should be handled very carefully. Liby. Com. No. 5. 8-12-44.

Request from Dr. Nalinaksha Dutt for loan of three MSS.: (1) Balabodhini of Sankaracarya; (2) Balabodhini-Bhavaprakasini of Ramcandra Sarasvati; and (3) Balabodhini from the Society's Library. (Note: The MSS. are available for loan as under)—

	Rs.
III G. 67 Balabodhini of Sankaracarya	10
III G. 67A Balabodhini-Bhavaprakasini of Ramcandra Sarasvati	10
III A. 121 Balabodhini	20

Grant on usual conditions against Indemnity Bonds as above. Liby. Com. No. 8. 8-12-44.

MANUSCRIPTS, PURCHASE OF.—Question of the purchase of the manuscript of the *Diwan of Sana'i*. Purchase for Rs.75 only. Liby. Com. No. 3. 14-8-44.

Letter from Mr. Saiyyad Tarzi offering a manuscript of the *Diwan of Saiyyad Muhammad Al-Hussini* for sale (postponed since the last meeting on 17-7-44). Purchase for Rs.75 only. Liby. Com. No. 3. 14-8-44.

Question of the purchase of a manuscript of *Kimiya-i-Saadat* by Imam Ghazeli, copied in 858/1454 A.D. (Note: Prof. M. M. Haq, whose opinion has been sought, refers to an earlier MS. of the work, dated 737/1338 A.D. in the Society's Library. The Society's copy is defective and he recommends purchase of the above provided the price is reasonable and the copy is certified to be complete after careful examination.) Purchase for Rs.60 (Rupees sixty only), subject to its being complete. Liby. Com. No. 8. 3-11-44.

MEDAL AWARDS, BOARDS.—The Indian Science Congress Medal Advisory Board after due consideration resolved to recommend to the Council that the Indian Science Congress (Calcutta Medal) for the session held in Calcutta in 1943 be awarded to Prof. S. P. Agharkar, in recognition of his conspicuously important services to the Indian Science Congress Association as its General Secretary from 1924 to 1935. Ind. Sc. Con. Cal. Medal Adv. Bd. No. 3. 28-1-44.

Report of award of the Indian Science Congress, Calcutta, Medal for the session held in Calcutta in 1943 to Prof. S. P. Agharkar (recommendation of the Science Congress Medal Advisory Board approved by the Council in circulation). Approved. Council No. 13. 16-2-44.

Letters from the heirs of the late Rai Bahadur S. C. Roy objecting to the Regulations adopted by the Council for the award of the Sarat Chandra Roy Medal for cultural anthropology. Record: (1) With regard to the clause 2(b) of No. 4 of the 'Regulations regarding the award of the S. C. Roy Medal' (re. Advisory Board) reading: 'After her death the Council will nominate a suitable person from among the heirs of the late Sarat Chandra Roy, if available,' to the wording of which the heirs of the late S. C. Roy have raised objection, it was resolved that clauses (b) and (c) of No. 4 of the Regulations suggested by them be incorporated into one clause as follows: 'After her death one member is to be nominated by the heirs of the late S. C. Roy'. (2) Other minor amendments suggested by them be accepted. (3) A copy of the revised Regulations be forwarded to Mrs. Roy for her approval. Council No. 11. 24-7-44.

Letter from Mrs. S. C. Roy, Ranchi, approving the amendments made by the Council in the 'Regulations regarding the award of the S. C. Roy Medal'. Record with thanks to Mrs. Roy. Adopt the amended Regulations and report for information to the next Ordinary Monthly Meeting as prescribed in Rule 48(a). Council No. 2. 16-8-44.

Constitution of the Advisory Boards for the awards of the following medals: (a) Dr. B. C. Law Gold Medal—The donor (Dr. B. C. Law) *ex-officio*, Phil. Secretary (Dr. N. Dutt) *ex-officio*. Additional: Dr. S. P. Mookerjee, Dr. R. C. Majumdar and The Hon'ble Mr. Justice Edgley. (b) S. C. Roy Memorial Medal—The Anthro. Secy. (Dr. W. G. Griffiths) *ex-officio*, Nominee of Mrs. S. C. Roy (Dr. A. K. Roy Choudhury) *ex-officio*. Additional: Prof. K. P. Chattopadhyay, Mr. L. R. Fawcett, Mr. J. P. Mills and Dr. Kalidas Nag. (c) Joy Gobind Law Memorial Medal—Biological Secy. (Dr. Agharkar) *ex-officio*. Additional: Dr. S. C. Law, Dr. S. L. Hora, Dr. S. P. Agharkar, Dr. H. K. Mookerjee. (d) Paul Johannes Brühl Memorial Medal—The President (Dr. S. P. Mookerjee) *ex-officio*, Ghose Professor of Botany (Dr. S. P. Agharkar) *ex-officio*, Director, Botanical Survey of India (Dr. K. P. Biswas) *ex-officio*, President, Botanical Section, I.S.C.A. (Dr. G. P. Majumdar) *ex-officio*, Natural Hist. Secy., R.A.S.B. (Dr. Agharkar) *ex-officio*. Council No. 2. 8-9-44.

Matters concerning the award of the Sarat Chandra Roy Medal. (a) Invest Rs.4,000 donated by Mrs. S. C. Roy for the institution of the medal by the Society in 3% Defence Loan. (b) The value of the medal to be awarded every year should not exceed the interest available from the investment; if a gold medal cannot be made with the interest, then a silver medal should be awarded. (c) A die for the medal need not be made for the time being. Council No. 14. 8-9-44.

Recommendation of the Paul Johannes Brühl Memorial Medal Advisory Board. Accept the recommendation, Dr. N. L. Bor. Council No. 4. 18-12-44.

Recommendation of the Joy Gobind Law Memorial Medal Advisory Board. Accept the recommendation, Dr. S. L. Hora. Council No. 5. 18-12-44.

Recommendation of the Dr. B. C. Law Gold Medal Advisory Board. Accept the recommendation, Dr. D. R. Bhandarkar. Council No. 6. 18-12-44.

Recommendation of the S. C. Roy Memorial Medal Advisory Board. Accept the recommendation, Dr. Verrier Elwin. Council No. 7. 18-12-44.

MISCELLANEOUS.—Letter to Dr. Nag from Sir Sultan Ahmed, Member of Council of State, in connection with the appointment of Major Douglas Coldstream, and requesting to afford him facilities in the Society during his stay in India. Afford the necessary facilities. Council No. 18. 16-2-44.

Report on burglary in the Society's premises on the night of 15-3-44. (a) The constable who recovered the stolen property be rewarded Rs.10 through proper authorities. (b) Two night-watchers be appointed whose duty will be to guard the premises of the Society by turns. (c) A general warning be given to all employees of the Society. Council No. 16. 22-3-44.

Letter from Mr. S. C. Chatterjee, requesting to waive the charge of Rs.10 made for using the hall for a meeting called by him on 18-8-44; also to give him free use of the hall for such meetings. May be waived in his case; but he should be asked not to give publicity to the meetings before getting permission from the Society for holding such meetings in the Society's hall and not to use Society's name for his meetings. Council No. 13. 8-9-44.

Circular letter from the Director of Scientific and Industrial Research, Delhi, inviting the co-operation of the Society in connection with the compilation of a Dictionary of Economic Products and Industrial Resources of India. Offer co-operation and enquire specific terms contemplated by the circular. Council No. 2. 23-6-44.

NUMISMATICS.—Letter from Maulvi Shamsuddin Ahmed regarding the classification and cataloguing of coins in the Society's possession. Record and resume work. Liby. Com. No. 8. 5-9-44.

PROVIDENT FUND.—Application from S. K. Roy, General Clerk, for withdrawing a sum of Rs.1,000 from his Provident Fund account with the Society. In view of his completing 20 years' service in the Society, allow him to withdraw Rs.1,000 from his Provident Fund money standing to his account; this withdrawal will not entitle him to claim any gratuity in the event of his retirement. Fin. Com. No. 8. 7-11-44.

Application from Shah Moniuddin Ahmad praying sanction for withdrawal of Rs.2,000 from the Provident Fund Account. In view of his completing 30 years' service in the Society, allow him to withdraw Rs.1,600 from his Provident Fund money standing to his account; this withdrawal will not entitle him to claim any gratuity in the event of his retirement. Fin. Com. No. 3(f). 12-12-44.

PUBLICATIONS.—Consideration of the services of Mr. D. Burman who was appointed provisionally by the Council in July 1943 on a part-time basis on Rs.100 per month to be in charge of the Publication Department till 31-1-44. Mr. Burman to continue till 31-1-45 on the present terms in charge of the Publication Department. Pub. Com. No. 3. 17-1-44.

Report by the General Secretary of the result of his talk with Dr. B. C. Kundu with regard to the reproduction of plates. Accept on three plate basis. For the reproduction of plates obtain estimates from the Calcutta Photoprinting Company or other firms with a view to bringing down the cost of reproduction. Pub. Com. No. 4. 17-1-44.

Report of Sir Jadu Nath Sarkar on the paper *Humayun in Persia* by Sukumar Roy. Read and publish the paper as an independent number of the Journal. Estimates to be obtained from press for consideration by the next meeting of the Publication Committee. Pub. Com. No. 5. 17-1-44.

Recommendation about debiting advertisement bills to Publication Fund Account. Debit advertisement bill regarding book sales to Publication Account. Pub. Com. No. 2. 19-5-44.

Mr. Gurner's letter about distribution of Journals among members. Approved the suggestion; members may be requested to accept either the Science or the Letters numbers of the Journal and Memoirs according to their choice and to forego the other. The choice should be entirely voluntary. Pub. Com. No. 3. 19-5-44.

Report on sale of publications and supply of paper. (1) Record. (2) Request Mr. K. P. Khaitan to seek the co-operation of our life member, Mr. G. D. Birla, in the matter. Council No. 18. 23-6-44.

Consideration of the Paper Control Order of the Government of India affecting the Society's publications. (1) The Council be requested to arrange a representation to the Government of India for (a) an exemption from Paper Control Order, and (b) for an increased allotment of paper for our publication. (2) The Council be also requested to empower the President and the

General Secretary to take necessary steps for the immediate purchase of paper for the Society's publications. Sp. Pub. Com. 20-7-44.

Recommendations of the Special Publication Committee of 20-7-44. The Publication Committee is to prepare a statement showing details as to how the Paper Control Order affects the Society's publications, and to suggest ways and means of economizing for consideration by the Council. Council No. 4. 24-7-44.

Consideration of the Paper Control Order of the Government of India affecting the Society's publications, e.g., *Journal*, *Year-Book*, *Memoirs*, *Catalogues* and works in the *Bibliotheca Indica*, and to suggest ways and means for economizing the publications for consideration of the Council. (a) Follow the rule of the Government of India with regard to the size of our *Journal*. (b) Apply for exemption from restrictions on publications. (c) Failing exemption the average number of papers printed during the last five years (viz. 3,000 pages) should be taken as standard for calculation. (d) It be pointed out to the Government that the Society's publications are irregular, vary greatly from year to year as regards number of pages and many of our publications being in progress must be completed soon. Jt. Pub. & Lib. Com. No. 1. 14-8-44.

Recommendations of a Joint Meeting of the Publication and Bibliotheca Indica Committee with regard to economizing the publications of the Society as a result of the Paper Control Order of the Government of India. Accept including the recommendation to give the dearness allowance to Mr. D. Burman. Council No. 6. 16-8-44.

The following matters were considered: (a) Recommendation of the Publication Committee to publish in the *Memoirs*, R.A.S.B., a paper on 'Kol Tribes' by Dr. W. G. Griffiths involving an expenditure of about Rs.1,900. Recommend to the Council to provide money from the Publication Fund for publishing the paper. This may be done as soon as the paper is available and a special request should be made to the Government for this purpose; (b) Recommendation of the Library Committee to appoint Pandit N. G. Banerji for preparing a summary catalogue and Introduction of the Indian Museum Catalogue of Sanskrit MSS. at a remuneration for the Introduction at the usual rate paid to the editors. Recommend to the Council to accept the recommendation to appoint Pandit Banerji for the specified work and pay him from the Sanskrit MSS. Fund; (c) Recommendation of the Library Committee to pay Pandit N. G. Banerji Rs.125 for scrutinizing and assessing the importance of the MS. catalogued by other two Pandits. Pay from the Sanskrit MSS. Fund. Fin. Com. No. 6. 8-9-44.

Letter from Mr. J. P. Mills, Honorary Director of Ethnography, Assam, dated the 29th August, with regard to the publication by the Society of a monograph on the 'Garos' by Mr. G. D. Walker, M.B.E. Having regard to the recent 100% increase in the rate of printing charges and the difficulty in procuring the paper the Finance Committee cannot recommend to the Council that this monograph be published by the Society during the War unless the Govt. of Assam are prepared to subsidize the work to the extent of at least half of the total cost and also to supply the amount of paper required for the purpose. Fin. Com. No. 7. 8-9-44.

REPRESENTATION.—Representation of the Society on the Council of the National Inst. of Sciences of India for 1944. Dr. W. D. West and Dr. D. M. Bose be re-nominated as an additional Vice-President and an additional Member of Council respectively to represent the Society on the Council of the National Inst. of Sciences of India for 1944. Council No. 1. 19-1-44.

Circular letter from the Hony. Local Secretary, Sixth All-India Library Conference, Jaipur, requesting to nominate one or more delegates to represent the Society at the meeting. Khan Bahadur K. M. Asadullah be requested to represent the Society. Council No. 1. 22-3-44.

Representation of the Society on the Selection Committee of the Calcutta University for the award of the Sarojini Basu Gold Medal for 1944. Dr. R. C. Majumdar be the Society's representative. Council No. 1. 22-5-44.

Letter dated 9-6-44 from the Registrar, Calcutta University, requesting to nominate an expert to represent the Society to serve on the Selection Committee for the appointment of Asutosh Professor of Mediaeval and Modern Indian History for the University. Dr. R. C. Majumdar be the Society's nominee. Council No. 1. 23-6-44.

Memorandum from the Keeper of the Records of Govt. of Bengal on the subject of the next session of the Indian Historical Records Commission regarding nomination of the Research and Publication Committee of the Commission. Record: Mr. Gurner will continue to be the Society's representative on the Research and Publication Committee of the Commission till the expiry of the period in 1946. Council No 1. 24-7-44.

Representation of the Society at the Seventh Session of the Indian History Congress which will be held in Madras in December 1944. Dr. R. C. Majumdar be the Society's representative. Council No. 1. 8-9-44.

Letter from the Dept. of Edn., Health and Lands, Govt. of India, intimating that the Society has been selected to be a member of the Advisory Board of Archaeology, and requesting to nominate a representative to serve on the Board. The Hon'ble Mr. Justice Edgley be the Society's representative. Council No. 1. 7-11-44.

Request from the Patna University to send a representative of the Society to attend the Silver Jubilee Special Convocation which will be held on the 30th November, 1944. Dr. S. P. Mookerjee to represent the Society. Council No. 11. 7-11-44.

Nomination of a representative of the Society to serve as a member of the Trustees of the Indian Museum in terms of the Indian Museum Act X of 1910. Mr. K. P. Khaitan be the Society's representative. Council No. 2. 18-12-44.

Representation of the Society on the Council of the National Institute of Sciences of India. Sir U. N. Brahmachari and Dr. Girindrasekhar Bose be nominated as an additional Vice-President and an additional Member of Council respectively to represent the Society on the Council of the National Institute of Sciences of India for 1945. Council No. 23. 18-12-44.

REQUESTS.—Consideration of a letter from the officiating Minister for Christian Scientists, Calcutta, requesting to let out a room in the building, or the outhouses now occupied by the menial employees of the Society, for a Christian Science Rest-Room for His Majesty's Forces. Regret. We cannot comply with this request as we have no available space. Special Council No. 1. 4-5-44.

Application from the Honorary Secretary, Calcutta Art Society, requesting to let out a room on the Society's ground-floor for their office. Express regret as no accommodation is available. Council No. 24. 18-12-44.

Letter from Sir Cyril Fox requesting that he may be permitted to continue the use of the room on the ground-floor at a nominal rent in connection with his work on the preparation of an Encyclopaedia on Indian minerals. Allow at a rent of Rs.20 per month. Council No. 16. 16-2-44.

Request for the use of the Society's hall on 8th November for a meeting of the Calcutta Art Society. Allow on payment of Rs.10. Council No. 3. 7-11-44.

SALES.—Letter from the Librarian, Imperial Library, requesting either free supply of the back numbers of the Society's Journal or supply them at concession rate to complete the set in the Imperial Library. Supply at a special discount of 50% in prices of the available numbers. Council No. 3. 16-2-44.

Letter from Mr. S. P. Mahajan (Life Member) requesting a discount of 50% on some books he wants to purchase for presenting to a public library. Books asked for be supplied to the Library direct on application. Pub. Com. No. 6. 21-3-44.

Report on the progress of sales and renewal of concessions in price of Society's publications decided upon in August 1943. Re-advertise in Indian Journals; continue the concession to members and book-sellers only up to 30-6-44. Pub. Com. No. 2. 17-1-44.

Application for book-selling Agency from Sanskrit Pustaka Bhandar. No Agency to be sanctioned. A special discount of 84% may be allowed over the ordinary trade discount of 25%, only when the party has purchased books worth Rs.1,000 or more in a year. Accounts to be settled at the close of each year during which the normal trade discount of 25% will be payable. The special discount is to be paid after the annual adjustment of accounts. Credit facilities up to Rs.200 to be granted. Pub. Com. No. 6. 5-9-44.

STAFF.—Report of death of Mr. Trin Chen, Sino-Tibetan clerk of the Society in December 1943, and the question of the disposal of the Provident Fund money due to him and gratuity of a month's salary to his legal heir. Sanction Rs.20 already paid. Pay salary for December and other Provident Fund dues to his daughter after consultation with the Consul-General for China. Finance Com. No. 5. 12-1-44.

Consideration of the service of Mr. B. C. Bose, Assistant in the Library. Appoint permanently as an Assistant in the Library on Rs.75—5—125 with a first increment of Rs.5 from January 1944. Liby. Com. No. 2. 19-1-44.

The question of appointment of an Assistant for the Sino-Tibetan section of the Library in place of the late Mr. Trin Chen. Advertise. Liby. Com. No. 2. 16-2-44.

Consideration of the general question of adequacy of existing salaries of staff of the Society (postponed from last meeting). Recommend to the Council that (a) the Rs.2 cut made last year in the food allowance of the menial staff be restored; (b) after considering the various applications for increments, change of grade, etc. the following be granted special allowance: (i) S. M. Ahmed, First Maulvi—Rs.10, (ii) B. M. Chakravarti, Cashier—Rs.5; (c) in view of the long service of the Stock duffry Abdul Wahid, he be given the maximum of his grade, Rs.25; (d) Habib, temporary pasting duffry, be transferred to the stock, and be confirmed as Assistant Stock duffry on the grade Rs.20—1/5—25; (e) these recommendations to take effect from the current month (March 1944). Fin. Com. No. 3. 22-3-44.

Appointment of an Assistant in the Sino-Tibetan section of the Library in place of Mr. Trin Chen deceased. Postpone consideration and request Dr. N. Dutt for a report on the specific requirements of the section. Liby. No. 4. 21-3-44.

Report on the two appointments made in connection with the preservation scheme of the Library, sanctioned by Council, each on a salary of Rs.20 with the usual dearness allowance of Rs.10. Approved. Fin. Com. No. 3. 22-5-44.

Report on the two appointments made in connection with the preservation scheme of the Library, sanctioned by Council, each on a salary of Rs.20 with the usual dearness allowance of Rs.10. (a) Abu Ibrahim, temporary pasting duftly, Sanskrit Section, as a permanent binder in the Library. (b) Shaikh Kasem Ali newly appointed as mender in the Library for three months in the first instance subject to renewal on satisfactory work. Approved. Fin. Com. No. 4. 22-5-44.

Application from Sib Sankar Mitra, Cataloguer of the Library, Eng. Sec., praying for dearness allowance. As the applicant is appointed on a fixed salary, dearness allowance cannot be granted. Fin. Com. No. 6. 22-5-44.

Recommendations of the Library Committee of 13-6-44. (1) Accept. With regard to item No. 6 of the minutes it was resolved that: (2) In case of absence without leave of duftly Nawab and bearer Moinuddin, the General Secretary is authorized to impose a fine up to Re.1 a day in addition to the forfeiture of that day's salary, (3) Regulations regarding late attendance and absence without leave be strictly applied in the case of all employees of the Society violating them. Council No. 6. 23-6-44.

Question of continuation of the services of Mr. Sib Sankar Mitra, Cataloguer, General Section, appointed provisionally for one year from 1st September, 1943. Re-appoint for three years with an annual increment of Rs.10 only with effect from 1st September, 1944. Grant usual dearness allowance to Mr. Mitra and Mr. Saraswati with effect from this month. Liby. No. 5. 14-8-44.

Question of appointing a part-time Assistant in the Library for records and archives of the Society. Advertise for the post. Liby. No. 7. 14-8-44.

Recommendations of the Library Committee on 14-8-44. (a) Accept. (b) With regard to item No. 5 of the minutes, re-appoint Mr. Sib Sankar Mitra for a period of three years on a fixed salary of Rs.100 p.m. with effect from 1-9-44. (c) Mr. Mitra and Mr. S. K. Saraswati, Librarian, be given the usual dearness allowance. (d) With regard to item No. 7, an Assistant for the files be appointed temporarily for one year, on grade Rs.50—3—80 with the usual dearness allowance. Council No. 5. 16-8-44.

Question of the appointment of a temporary Assistant for old records and archives of the Society. Postpone consideration and write to Dr. S. N. Sen, Director of Archives, for a trained man. Liby. Com. No. 4. 5-9-44.

Question of the appointment of a temporary Assistant for old records and archives of the Society. (Note: Dr. S. N. Sen, Director of Archives, who was referred to as per Library Committee recommendation of 5-9-44, informs that no suitable person is available as the scale of pay offered by the Society is rather low. He suggests that the Assistant, selected by the Society may be deputed to his department for training in indexing, arrangement of records, etc.) Appoint Mr. Prafulla Chandra Pal on probation for one month and take up the question of his substantive appointment and pay after the probationary period is over. Liby. Com. No. 10. 3-11-44.

Recommendations of the Library Committee of 3-11-44. Accept. In this connection the Library Secretary brought to the notice of the Council the irregularity in the attendance of Nawab Jan, duftly, and Sh. Moinuddin, bearer, of the Library and the series of warnings that had no effect on them. It was resolved to dispense with their services with effect from the 8th November, 1944, and to pay them a month's salary and dearness allowance in lieu of the notice and the Provident Fund money with full benefits. Council No. 5. 7-11-44.

The General Secretary reported that Altaf Husain and Khalil have been appointed a duftly and bearer respectively in the vacancies of Nawab Jan and Moinuddin. Approve and record. Liby. Com. No. 6. 8-12-44.

Letter from Mr. Sib Sankar Mitra, Cataloguer, resigning his post with effect from January 1945. Accept resignation. Request candidates to interview before a Selection Committee consisting of Khan Bahadur K. M. Asadullah, Dr. Nalinaksha Dutt and the General Secretary on Friday, the 15th December, 1944, at 5 p.m. Liby. Com. No. 4. 8-12-44.

Application from the late despatcher's wife for the enhancement of her pension. Recommend to have the pension raised from Rs.11 to Rs.12 per month with effect from January 1945. Fin. Com. No. 12. 12-12-44.

Application from A. Michael, Stanographer, requesting the Council to re-consider the decision of the Finance Committee in connection with his application for a further increment in salary. Hold over. In view of the present emergency and of the expanding activities of the Society a Board be constituted consisting of the Hon'ble Mr. Justice Edgley, Messrs. K. P. Khaitan, W. D. West, N. Dutt and the General Secretary as members to consider the pay and the conditions of service of the staff; the Board also to review the work done by the members and make necessary recommendations to the next Council Meeting. Council No. 18. 18-12-44.

Addenda
to
**List of Patrons, Officers, Council
Members, Members, Fellows,
and Medallists**
of the
Royal Asiatic Society of Bengal
on the 31st December, 1944

NEW MEMBERS, 1944

R = Resident. N = Non-Resident. F = Foreign. L = Life.

Date of Election.		
7-2-44	R	Adavi, V. N. , B.A. (HONS.), I.A. & A.S., <i>Deputy Accountant-General, Posts and Telegraphs</i> . Calcutta.
5-6-44	N	Ahmed, JAMIL , B.Sc., LL.B., <i>Sub-Editor and Monitor, Counter-Propaganda Directorate, Government of India</i> . Bothwell, Simla.
1-5-44	R	Agrawal, BHURAMAL , B.A., B.L., <i>Advocate, High Court</i> . 1-B Old Post Office Street, Calcutta.
3-7-44	R	Ashutosh BRAHMACHARY . Ramkrishna Vedanta Math, 19-B Raja Raja-krishna Street, Calcutta.
1-5-44	N	Ball, CYRIL FRANCIS , <i>Missionary, Principal, Bankura Christian College</i> . Bankura.
7-2-44	R	Balvally, R. D. , <i>Deputy Chief Accounts Officer A.P.</i> 23/24 Ezra Mansions, Calcutta.
3-4-44	R	Band, EDWARD , M.A. (CAMBRIDGE UNIVERSITY), <i>British Ministry of Information, Oriental Scholar</i> . 20 Stephen House, Dalhousie Square, Calcutta.
15-9-44	R	Batia, SETH CHANDMULL . 7 Canning Street, Calcutta.
5-6-44	R	Benthall, ARTHUR PAUL , <i>Partner, Messrs. Birl & Co.</i> Chartered Bank Building, Calcutta.
15-9-44	R	Bernhardt, ERIC , <i>Engineer, Representative, Brown Boveir & Co.</i> c/o Messrs. Volkart Bros., Calcutta.
3-1-44	R	Bhattacharjee, ABANI KANTA , <i>Barrister-at-Law</i> . 11 Clive Row, Calcutta.
15-9-44	R	Bhattacharya, KAMAKHYA CHARAN , <i>Jyotirbhusan</i> . 16 Anath Deb Lane, P.O. Beadon Street, Calcutta.
7-2-44	R	Bhattacharya, SUKUMAR, M.A. , <i>Professor of History, Asutosh College</i> . 16 Basanta Bose Road, P.O. Kalighat, Calcutta.
3-7-44	R	Birla, B. KUMAR , <i>Merchant</i> . 8 Royal Exchange Place, Calcutta.
3-3-44	L	Birla, G. D. , <i>Businessman</i> . Birla Park, Gurusaday Road, Ballygunge, Calcutta.
3-7-44	R	Birla, KRISHNA KUMAR , <i>Businessman</i> . 8 Royal Exchange Place, Calcutta.
23-8-44	L	Birla, LAKSHMI NIVAS , <i>Merchant</i> . Birla Park, Ballygunge, Calcutta.
3-7-44	R	Birla, MADHAV PRASAD , <i>Merchant</i> . 19 Gurusaday Road, Ballygunge, Calcutta.
3-7-44	R	Birla, G. PRASAD , <i>Merchant</i> . 8 Royal Exchange Place, Calcutta.
7-2-44	R	Bose, AMARCHAND, M.A. , <i>Assistant, Calcutta University</i> . 74 Sukea Street, Calcutta.
23-8-44	R	Bose, MANINDRA LAL, M.A. , B.L., <i>Barrister-at-Law</i> . 9 Congress Exhibition Road, Park Circus, Calcutta.

Date of Election.		
1-5-44	R	Boultonbee, H. L., Major, Indian Army, No. 2, C.T.C. 30 Advance Base P.O.
7-8-44	R	Bradley, GERARD ANTHONY, Lance Corporal, 200 Indian Special Intelligence Company, c/o 9 Advance Base P.O.
1-5-44	R	Chanda, APURVA KUMAR, M.A., I.E.S., Principal, Presidency College. College Street, Calcutta.
7-8-44	R	Chatterjea, S. P., Medical Practitioner. 56 Gariahat Road, Ballygunge, Calcutta.
15-9-44	N	Chatterjee, HARI GOPAL, M.A., H.M.D., Assistant, P.G. Department, Calcutta University. Machubazar Ghat, Chinsura, Hooghly.
3-3-44	R	Chatterji, RAKHA HARI, M.A., B.L., Additional Land Acquisition Collector. 5 Bankshall Street, Calcutta.
15-9-44	N	Choudhuri, JATINDRA MOHAN, B.A. (CAL.), B.T. (DACCA), Shastraratna, Headmaster, Haripur H.E. School. P.O. Shibpur, Dinajpur.
15-9-44	R	Chunder, PRATAP CHANDRA, M.A., B.L., Research Student in Indian History. 23 Wellington Street, Calcutta.
1-11-43	N	Claque, PETER, Captain, Royal Artillery. c/o Messrs. Lloyds Bank Ltd., Karachi.
7-2-44	R	Cowen, E. O. BRUCE, LIEUT., R.I.N.V.R., Naval Officer. c/o H.M.I. Naval Office, Calcutta.
6-12-43	N	Das, JYOTIRINDRA NATH, RAI SAHIB, B.SC., Deputy Conservator of Forests. Sylhet, Assam.
3-3-44	R	Das, S. A., A.L.A.A. (LOND.), OFFICER D'ACADEMIE (PARIS), Secretary, Messrs. J. Stone & Co. (India), Ltd. P-10 Lake Terrace, P.O. Rashbehari Avenue, Calcutta.
3-7-44	R	Das Gupta, SUBIKAS, B.SC. (CAL.), M.SC. TECH. (MANCHESTER), A.I.C. (LONDON), Textile Business. 80 Park Street, Circus, Calcutta.
1-5-44	R	Demetrius, ST. JOHN, Chartered Accountant, Proprietor, Messrs. George Read & Co. 1 Avenue House, Chowringhee Square, Calcutta.
7-8-44	N	Dewsbury, GELSON THOMAS, Flying Officer, Royal Air Force. c/o Messrs. Lloyds Bank, Ltd., New Delhi.
5-6-44	R	Dutton, NEVILLE CHARLES, Assistant Commissioner of Commercial Taxes, Bengal. St. Xavier's College Hostel, 30 Park Street, Calcutta.
5-6-44	R	Edwards, L. BROOKE, Chief Mission Officer, United States Foreign Economic Administration. 1 Esplanado Mansions, Calcutta.
7-8-44	L	Elmhirst, LEONARD KNIGHT, M.A., B.SC., Special Officer, Bengal, Department of Agriculture. United Service Club, Calcutta.
1-5-44	N	Elwin, VERRIER, M.A., D.SC. (OXON), F.N.I., F.R.A.I., Field-Anthropologist. P.O. Patangarh, Dindori Tahsil, Mandla Dt., C.P.
3-1-44	N	Feldman, HENRY HERBERT SIDNEY, Major, Royal Artillery. c/o Messrs. Grindlay & Co., Ltd., Connaught Place, New Delhi.
1-5-44	N	Ganguly, SARAT KUMAR, Member of the International Educational Council, Haron, U.S.A., Assistant Teacher, H.C.H.E. (Govt.-aided) School. Abusaleh Road, Gaya.
5-6-44	R	Ghani, OSMAN, M.A. (HIST. & ENG.), Professor of English, Now Librarian, Bengal Library. Writers' Building, Calcutta.
3-3-44	R	Ghosh, SUSIL KUMAR, M.A., B.L., Attorney-at-Law. 48/2 Ramtanu Bose Lane, P.O. Beadon Street, Calcutta.
4-12-44	N	Gifford, FREDERICK RICHARD, O.B.E., LT.-COL., I.A., Adviser in Languages and Secretary, Board of Examiners, General Staff Branch, G.H.Q. (India). Simla.
1-5-44	N	Goetz, HERMANN, PH.D., Art Historian, Curator, Baroda State Museum and Picture Gallery. Baroda.
5-6-44	N	Haldar, BALARAM, M.A., B.SC., B.L., Rector, M.E. School. English Bazar, Puratuli, Malda.
3-4-44	N	Harvey, REGINALD CHARLES, B.SC., A.M.I.C.E., A.I.N.A., Superintendent, Way & Works, E.I. Ry. Moradabad.
3-7-44	N	Holloway, JOHN E., Technical Sergeant, U.S.A. Forces. New Delhi.
1-5-44	R	Husain, MAHDI, M.A., PH.D., D.LITT., Lecturer, Calcutta University. c/o The Department of Islamic History and Culture, Darbhanga Buildings, Calcutta.
5-6-44	A	Hutchinson, EDWARD WALTER, M.A. (CANTAB.). c/o The Hongkong and Shanghai Banking Corporation, Calcutta.
5-6-44	R	Irwin, J. C., Captain, Private Secretary to H.E. the Governor of Bengal. Government House, Calcutta.

Date of Election.		
7-8-44	N	Jan, AGHA MUHAMAD, F.T.S. and Member of G.W.C.S. League (London). Gulzarbagh, Patna.
3-7-44	N	Kejriwal, RAMESHWAR, B.A., Merchant. P.O. Jasidih, Santal Pergs., Bihar.
23-8-44	R	Khaitan, Mrs. K. P. 6 South End Park, P.O. Rashbehari Avenue, Calcutta.
3-3-44	R	Khan, MOHIBBUL-HASAN, Lecturer in History, Calcutta University. Flat No. 4, 5/C Sandel Street, Calcutta.
3-7-44	R	Khemka, MADANLAL, President, Marwari Chamber of Commerce and Councillor, Calcutta Corporation. 63 College Street, Calcutta.
15-9-44	R	Leggett, TREVOR BRYCE, Psychological Warfare Division, S.E.A.C. 6 Hungerford Street, Calcutta.
23-8-44	N	Marwood, SIDNEY LIONEL, C.I.E., I.C.S., Adviser to H.E. the Governor of Orissa. Cuttack, Orissa.
15-9-44	R	McCabe, JOSEPH, Psychological Warfare Division, S.E.A.C. 6 Hungerford Street, Calcutta.
23-8-44	N	Misra, RAM KRIPAL, SUSHIL, B.A., SAHITYARATNA, Headmaster, Hindi M.E. School. Sambalpur, B.N.R. (Room No. 5, King Edward Hostel, Kamachha, Benares.)
5-6-44	R	Mitra, PROKASH CHANDRA, B.E., A.M.I.E. (INDIA), Consulting Engineer, Proprietor, P. C. Mitter & Co. 98 Clive Street, Calcutta.
7-2-44	R	Mitra, ROHININDRA LALA, Solicitor. 143 Raja Rajendralala Mitra Road, Belgachia, Calcutta.
7-2-44	R	Mitra, SAILENDRA NATH, M.A., F.C.U., Secretary, Councils of Post-Graduate Teaching in Arts and Science, and Lecturer, Calcutta University, Asutosh Bldg. Calcutta University, Calcutta.
7-2-44	R	Mookerjee, SATKORI, M.A., PH.D., Head of the Dept. of Sanskrit, Calcutta University. 4B Panchanan Ghose Lane, Calcutta.
3-7-44	R	Mullick, BIRENDRA, Landholder. Marble Palace, 46 Mukhtarani Babu Street, Calcutta.
15-9-44	N	Nath, R. M., B.E., Executive Engineer, P.W.D. (Govt. Service). P.O. Jorhat, Assam.
3-1-44	R	Osborn, H. B., D.D.S., F.I.C.D., Dentist. 9 Chowringhee, Calcutta.
7-8-44	R	Patel, HARI PAM, Minicowner and Businessman. P. 301 Southern Avenue, Suite No. 6, P.O. Kalighat, Calcutta.
7-8-44	R	Poddar, BISWANATH, Merchant and Businessman. 115-A Chittaranjan Avenue, Calcutta.
3-1-44	R	Poddar, KISHEN LALL, Merchant, Landowner. 115A Chittaranjan Avenue, Calcutta.
3-4-44	R	Prabhamoyee DEVI, M.A. (CAL. UNIV.), Teacher. 18 Fern Place, Ballygunge, Calcutta.
15-9-44	R	Prasad, REV. AYODHYA, PUNDIT, B.A., Minister of the Calcutta Arya Samaj. 85 Bow Bazar Street, Calcutta.
1-5-44	R	Rahman, FAZLUR, M.A., B.L., M.L.A., Chief Whip, Government of Bengal. 84 Jhowtollah Road, P.O. Circus, Calcutta.
3-1-44	R	Rao, MISS SAKUNTALA, SASTRI, M.A. (ENG.), M.A. (SANSK.), B.LITT. (OXON), VEDANTATIRTHA, Formerly Principal, South Calcutta Girls' College. 210/6 Cornwallis Street, Calcutta.
3-4-44	N	ROX, SYDNEY, CAPTAIN, B.I.A.S.G., British Service Army Officer, Attached to Indian Army, O.C. 841, Ind. Pol. Platoon, S.E.A.C. (or c/o Messrs. Lloyds Bank, Ltd., Bombay).
1-5-44	N	Saksena, JAGDAMBA PRASAD, B.A., B.T. (B.H. UNIVERSITY), Member, Board of Studies in Hindi, Utkal University; Headmaster, Orient Paper Mills Middle English School. Brajrajnagar, Dt. Sambalpur, Orissa.
3-4-44	R	Sara, STANLEY ERIC, Businessman. 103 Clive Street, Calcutta.
4-12-44	R	Saraswati, SARASI KUMAR, M.A., Librarian, Royal Asiatic Society of Bengal and Lecturer, Calcutta University. 6/1 Mahendra Road, Calcutta.
23-8-44	N	Sarma, VENKATARAYA, DHARMARANJAN, PUNDIT, PH.D., Landholder. Narayanasram Badharikavanam, Karavadi P.O., Ongole Tq., Guntur Dist., Madras Presidency.
23-8-44	N	Sastry, J. S. VENKATACHALA, Jodidar, State Pundit of the Native States of Mysore, Cooh Behar and others. 120 Maharashtra Mahila Vidyalaya Road, Visvesvarapuram, Bangalore City.

Date of Election.		
3-7-44	R	Seal, MAHADEB CHANDRA , <i>Landholder and Cashier of Civil Bank of India, Ltd.</i> 15-A Nimitalla Lane, P.O. Beadon Street, Calcutta.
3-4-44	N	Sen, BHUPES LOBBAN , <i>Textile Chemist, Laboratory Technical Officer, Messrs. Volkart Bros. (Dyes Dept.).</i> 224 Bhalchandra Road, Matunga, Bombay 19.
3-4-44	R	Sen, SIBA PADA , B.A. HONS. (LONDON), <i>Professor of History and Politics, C.E.T., Bengal, Jadabpur.</i> 24-B Parkside Road, Kalighat, Calcutta.
7-2-44	R	Sen, SUKUMAR, M.A., PH.D. , <i>Lecturer, Calcutta University.</i> 27 Goa Bagan Lane, Calcutta.
3-7-44	N	Sen Gupta, SAILENDRANATH, M.A. , <i>Bengal Civil Service (Judicial Branch), Munshif.</i> Dubrajpur, Bengal.
3-3-44	N	Shaha, AKSHAYA KUMAR, B.SC. (DACCA), M.SC. (MOSCOW) , <i>Honorary Candidate of Science, U.S.S.R., 1935; Engineer-Scientist, Officer on Special Duty, Supply Department, Government of India.</i> c/o The Director of Industries, Patna.
5-6-44	R	Sharma, SHREENARAYAN, L.A.M.S., DYISHAGARATNA, M.A.S.F., AYURVEDA-CHARYA, KAVIRAJ, BAIDYASHIROMANI , <i>in charge M.R. Society Ayurvedic Rasayanshala.</i> P.O. Champanagar, Bhagalpur.
3-4-44	N	Singh, KALYAN, Raja and Istimardar of Bhinai. P.O. Bhinai, Dt. Ajmer-Merwara, Rajputana.
23-8-44	R	Singhi, RAMCHANDRA, B.A., A.C.A. (LOND.), B.A. , <i>Chartered Accountant.</i> 1-B Old Post Office Street, Calcutta.
6-12-43	N	Stein, WALTER EDWARD, D.SC., G.I.C.E., M.P.S., F.I.C.S., A.M.I.CHEM.E. (LOND.) , <i>Assistant Works Manager, Indian Ordnance Service.</i> Cordite Factory, Aruvangadu, Nilgiris, S. India.
3-3-44	R	Steven, J. W. R. , <i>Managing Director, Messrs. R. Sim & Co.</i> 2 Clive Row, Calcutta.
7-2-44	F	Trivedi, P. K. , B.A. (LOND.), <i>Teacher, Indian School.</i> Lindi, T.T., B.E. Africa.
3-4-44	R	Venkataramayya, PAPPU, B.E., A.A.I.E.E. , <i>Deputy Assistant Director, Office of the Electoral Commissioner.</i> 4 Hastings Street, Calcutta.
23-8-44	R	Vishwanath, SHASTRI (PUNJAB UNIVERSITY), BYAKARANTHIRTH , <i>Office Superintendent of the All-India Hindu (Arya) Dharma Seva Sangha.</i> 102 Mukhtaram Babu Street, Calcutta.

NEW LIFE MEMBERS

1-4-25	H. Hobbs (44 N.).	7-8-44	L. K. Elmhirst (44 R.).
3-3-44	G. D. Birla (44 R.).	23-8-44	L. N. Birla (44 R.).

NEW ASSOCIATE MEMBERS

Date of Election.	
3-1-44	RAY, BASANTA RANJAN , <i>Agricultural Institute.</i> Barrackpore, 24-Parganas.
3-1-44	PETER, REV. F. A. <i>Canadian Mission, Palampore, Kangra District, Punjab.</i>

NEW SPECIAL ANNIVERSARY HONORARY MEMBERS

Date of Election.	
15-1-44	PROF. A. V. HILL, F.R.S., M.P. , <i>Nobel Laureate, Secretary of the Royal Society.</i> London.
15-1-44	DR. F. K. LI, PH.D. , <i>Fellow of Academia Sinica.</i> Chungking, China.

NEW ORDINARY FELLOW

Date of
Election.

7-2-44 | GIRINDRASEKHAR BOSE, M.B., D.SC., F.N.I.

CHANGES IN MEMBERSHIP

LIST OF MEMBERS ABSENT FROM INDIA FOR THREE YEARS
AND UPWARDS.

The following names will be removed from the next Member List of the Society under Rule 40 :—

- | | |
|---------------------------|------------------------|
| 1. Mrs. Anina Klebe. | } (Absent since 1941.) |
| 2. E. A. Andrews. | |
| 3. S. M. Ayrton. | |
| 4. A. M. Carstairs. | |
| 5. B. A. Helland. | |
| 6. S. P. Majumdar. | |
| 7. Count Podewils-Durniz. | |
| 8. E. Parker. | |

LOSS OF MEMBERS DURING 1944.

BY RETIREMENT.

Ordinary Members.

1. J. H. Shattock. (1935.)
2. E. R. Gee. (1934.)
3. A. R. Malik. (1941.)
4. F. St. G. de Spondlove. (1942.)
5. H. C. Chakladar. (1920.)
6. P. C. Sanyal. (1943.)
7. P. K. Ghose. (1942.)

BY DEATH.

Ordinary Members.

1. D. E. W. Blaikie. (1943.)
2. Sir P. C. Ray. (1890.)
3. Bahadur Singh Singhi. (1912.)
4. W. A. K. Christie. (1907.)
5. O. Berkeley-Hill. (1936.)
6. Seth Drucquer. (1944.)
7. E. L. G. Clegg. (1944.)
8. Sivaprasad Gupta. (1919.)

Honorary Fellows.

1. Sir David Prain. (1920.)
2. H. Lueders. (1939.)

Special Anniversary Honorary Member.

1. Dr. Sir Baron Jayatilaka. (1944.)

UNDER RULE 38.

1. J. Anderson. (1938.)
2. K. Basu-Mazoomdar. (1939.)
3. K. B. Chuckerbutty. (1932.)
4. S. C. Mitra. (1936.)
5. L. D. Stamp. (1923.)
6. John Robert Seal. (1940.)

UNDER RULE 40.

1. A. G. Brooke. (1936.)
 2. C. A. Boyle. (1932.)
 3. J. H. Hutton. (1923.)
-

MEDALLISTS

BARCLAY MEMORIAL MEDAL

RECIPIENT.

- 1943 Sir Upendranath Brahmachari, KT., M.A., M.D., F.S.M.F., F.N.I., F.R.A.S.B.

SIR WILLIAM JONES MEMORIAL MEDAL

RECIPIENT.

- 1943 Sir S. Radhakrishnan, KT., M.A., D.LITT., F.B.A.

INDIAN SCIENCE CONGRESS (CALCUTTA) MEDAL

RECIPIENT.

- 1943 S. P. Agharkar, M.A., PH.D., F.N.I.

P. N. BOSE MEMORIAL MEDAL

RECIPIENT.

- 1943 Sir Lewis L. Fermor, KT., O.B.E., D.SC., F.R.S.

DR. BIMALA CHURN LAW GOLD MEDAL

RECIPIENT.

- 1943 Suniti Kumar Chatterji, M.A., D.LITT., F.R.A.S.B.
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PROCEEDINGS OF THE ORDINARY MONTHLY MEETINGS, 1944



JANUARY

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 3rd, at 5-30 P.M.

PRESENT

DR. K. N. BAGCHI, B.Sc., M.B., F.I.C., D.T.M., F.N.I., Physical Science Secretary, in the Chair.

Members :

Basu, Mr. J. N.	Hobbs, Mr. H.
Bose, Mr. M. M.	Khaitan, Mr. K. P.
Edgley, The Hon'ble Mr. Justice N. G. A.	Nag, Dr. Kalidas
Hendrie, Mr. J. H.	Sukul, Mr. L.

Visitor :

Bhaduri, Dr. J. L.

The Chairman announced the death of Sir John Herbert, lately Governor of Bengal and a Patron of the Society. A vote of condolence was passed, all present standing.

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 14 presentations of books, etc., received during December 1943:—

- (1) From University of Madras—Chandragupta Maurya and his times.
- (2) From the Jodhpur Darbar—Glories of Marwar and Glorious Rathors.
- (3-4) From Teja Singh—The Growth of responsibility in Sikhism and Guru Nanak's Ode.
- (5) From Teja Singh and Ganda Singh—Maharaja Ranjit Singh.
- (6) From Ganda Singh—Banda Singh Bahadur.
- (7-8) From Teja Singh—Sikhism and Psalm of Peace.
- (9) From M. Ishaque—Modern Persian Poetry.
- (10) From R.A.S.B.—Descriptive Guide Book to Calcutta and its Environs.
- (11-12) From Govt. of Bombay—Daulat Rao Sindhia and North Indian Affairs, Vols. 8 and 9.
- (13-14) From University of Calcutta—Yama-Rupa and Dharma-Rupa and Calendar Supplement for 1943.

The following candidates were balloted for election as Ordinary Members:—

- (1) *Rao, Miss Sakuntala*, Sastri, M.A. (Eng.), M.A. (Sansk.), B.Litt. (Oxon), Vedantatirtha, Formerly Principal, South Calcutta Girls' College; 210/6 Cornwallis Street, Calcutta.

Proposer: Khagendranath Mitra. *Seconder:* K. Nag.

- (2) *Osborn, H. B.*, D.D.S., F.I.C.D., Dentist, 9 Chowringhee, Calcutta.

Proposer: M. M. Haq. *Seconder:* K. P. Khaitan.

- (3) *Feldman, Henry Herbert Sidney*, Major, Royal Artillery; c/o Messrs. Grindlay & Co., Ltd., Connaught Place, New Delhi.

Proposer: P. Mitra. *Seconder:* Suniti Kumar Chatterji.

- (4) *Bhattacharjee, Abani Kanta*, Barrister-at-Law, 11 Clive Row, Calcutta.

Proposer: M. M. Haq. *Seconder:* K. P. Khaitan.

- (5) *Poddar, Kishen Lal*, Merchant, Landowner; 115A Chittaranjan Avenue, Calcutta.

Proposer: Sir Cyril S. Fox. *Seconder:* N. G. A. Edgley.

- (6) *Drucquer, Seth*, B.A. (Cambridge), I.C.S., Special Officer, Civil Defence Publicity, Government of Bengal; 20A Stephen Court, Park Street, Calcutta.

Proposer: C. W. Gurner. *Seconder:* N. G. A. Edgley.

The General Secretary reported that the election of:

(5) Peter Clague, (6) N. Rankin (both elected on 6-9-43),
had become null and void under Rule 9.

The General Secretary also reported that the Council had appointed the following to serve on the Advisory Board of the Pramatha Nath Bose Memorial Medal for Geology:—

Dr. W. D. West, Dr. P. K. Ghosh, Prof. N. N. Chatterjee, Dr. S. P. Agharkar, Dr. K. N. Bagchi, Prof. M. M. Chatterjee and the General Secretary.

In accordance with Rule 38, the General Secretary reported that the names of the following Ordinary Members would be suspended as defaulters within the Society's building for the period of a month to be removed from the Society's registers for non-payment unless the amount due be paid before the next Ordinary Monthly Meeting in February 1944:—

1. James Anderson; 2. W. Basu-Mazoomder; 3. K. B. Chuckerbutty; 4. A. Chatterji;
5. D. C. Chatterji; 6. Sir K. G. M. Farouqi; 7. Sir Mohd. Akbar Khan; 8. S. C. Mitra; 9. J. N. Majumdar; 10. L. D. Stamp; 11. J. R. Seal; 12. J. H. Shattock.

In accordance with Rule 40, the General Secretary reported that the names of the following Ordinary Members would be removed from the next member list of the Society:—

1. A. G. Brocke; 2. C. A. Boyle; 3. J. H. Hutton (all absent from India since 1940).

In accordance with Rules 2 and 13, the Chairman called for a ballot for the election of:

(a) Mr. Basanta Ranjan Roy, and (b) Rev. F. A. Peter
as Associate Members of the Society for a period of five years whose names were proposed for election at the last meeting.

The Chairman called upon the General Secretary to read an obituary notice of the late Col. Sir Sidney Burrard, Bart., K.C.S.I., F.R.S. (Special Anniversary Honorary Member of the Society since 1934), written by Dr. J. De Graaf Hunter, C.I.E., F.R.S., Director, War Research Survey, Simla.

The following papers were read:—

1. ALFREDO FROILANO BACHMANN DE MELLO.—*Further Additions to the List of Ciliates living in the Intestine of Rana cyanophlyctis from Nova-Goa.* In this paper, the author has added three more Ciliates to the already recorded specimens found to be living in the intestine of *Rana cyanophlyctis*. They are named (1) *Nyctotherus Cordiformis* Stein, (2) *Opalina virgula* Dobell, and (3) *Opalina (cepedia) dimidiata* var. *cottoniana* var. nov. The author has also described the length, breadth and number of individuals of each specimen of Ciliates.

2. K. S. MISRA.—*Description of Day's Specimen of Dentax nufar (Val.) from Sind.* Although Day published an illustration of *Dentax nufar* (Val.) in the Atlas accompanying his book 'Fishes of India', no account of the species or even a reference to it was noticed in the text. Recently while working on the systematic position of a species of *Petrus* from Baghdad, the author made a special endeavour to trace Day's specimen of *D. nufar*, and found it (Register No. 2160, Sind; purchased from Day). It is now included in the genus *Cheimerius* Smith and not in *Dentax* Cuvier. To facilitate reference, a description of the species is given in the paper.

The Chairman announced the result of the ballot for the election of Ordinary Members and the two Associate Members and declared that the candidates had been duly elected.

The Chairman announced that the Annual Meeting of the Society would be held as usual on the first Monday in February, and invited the members present to communicate to the office names and addresses of non-members to whom they wished invitations to be issued.



FEBRUARY

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 7th, immediately after the termination of the Annual Meeting.

PRESENT

DR. SYAMAPRASAD MOOKERJEE, M.A., B.L., D.Litt., LL.D., Barrister-at-Law, President, in the Chair.

Members :

Agharkar, Dr. S. P.	Haq, Mr. M. M.
Brahmachari, Sir U. N.	Hobbs, Mr. H.
Brown, Mr. Percy	Hora, Dr. S. L.
Chatterjee, Mr. P. P.	Law, Dr. S. C.
Dhiman, Mr. M. C.	Lort-Williams, Sir John
Dutt, Dr. N.	Rahman, Mr. S. K.
Edgley, The Hon'ble Mr. Justice N. G. A.	Saha, Dr. M. N.
Fawcus, Mr. L. R.	Siddiqi, Dr. M. Z.
Griffiths, Dr. W. G.	Sukul, Mr. L.
Gangoly, Mr. O. C.	West, Dr. W. D.

The minutes of the last meeting were read and confirmed.

The following candidates were balloted for election as Ordinary Members:—

(7) Cowen, E. O. Bruce, Lieut., R.I.N.V.R., Naval Officer; c/o H.M.I. Naval Office, Calcutta.

Proposer: K. Nag. Seconder: N. G. A. Edgley.

(8) Bhattacharya, Sukumar, M.A., Professor of History, Asutosh College, 16 Basanta Bose Road, P.O. Kalighat, Calcutta.

Proposer: K. Nag. Seconder: Sir Cyril S. Fox.

(9) Trivedi, Prabhasanker Keshavji, B.A. (Lond.), Headmaster; The Indian School, 37 Lindi, T.T. (B.E. Africa).

Proposer: Sir Cyril S. Fox. Seconder: K. Nag.

(10) Bose, Amarchand, M.A., Assistant, Calcutta University; 7A Sukes Street, Calcutta.

Proposer: K. Nag. Seconder: N. G. A. Edgley.

(11) Clegg, Edward Leslie Gilbert, D.Sc., M.I.M.M., F.N.I., Director, Geological Survey of India, 27 Chowringhee, Calcutta.

Proposer: N. G. A. Edgley. Seconder: W. D. West.

(12) Adavi, V. N., B.A. (Hons.), I.A. & A.S., Deputy Accountant-General, Post and Telegraphs, Calcutta.

Proposer: N. G. A. Edgley. Seconder: K. Nag.

(13) Balvally, Ramarao Dattatraya, Deputy Chief Accounts Officer, A.P.; 23/24 Ezra Mansions, Calcutta.

Proposer: N. G. A. Edgley. Seconder: K. Nag.

(14) Sen, Sukumar, M.A., Ph.D., Lecturer, Calcutta University; 27 Goabagan Lane, Calcutta.

Proposer: K. Nag. Seconder: Suniti Kumar Chatterji.

(15) *Mitra, Sailendra Nath*, M.A., Secretary, Councils of Post-Graduate Teaching in Arts and Science, Fellow, Calcutta University; Asutosh Building, Calcutta University, Calcutta.

Proposer: Suniti Kumar Chatterji. *Seconder*: K. Nag.

(16) *Mookerjee, Satkori*, M.A., Ph.D., Head of the Department of Sanskrit, Calcutta University; 4B Panchanan Ghose Lane, Calcutta.

Proposer: K. Nag. *Seconder*: Suniti Kumar Chatterji.

(17) *Sen, Siva Narayana*, Keeper, Nepal Museum and Joodha Jatiya Kalasala, Archaeologist to the Govt. of Nepal, Deputy Director of Anthropological Survey of Nepal, Kathmandu, Nepal.

Proposer: K. Nag. *Seconder*: M. Ishaque.

(18) *Mitra, Rohinindralala*, Solicitor, 143 Raja Rajendralala Mitra Road, Belegkata, Calcutta.

Proposer: K. Nag. *Seconder*: M. Ishaque.

The General Secretary reported that an application for Institutional Membership had been received from:

(13) Gaudiya Mission, Baghbazar, Calcutta,

which had been accepted by the Council.

The General Secretary reported that the following members whose names were announced as suspended for a month as defaulters at the last meeting had regularized their position as members of the Society:—

1. Sir Mohd. Akbar Khan; 2. J. H. Shattock; 3. Nawab Sir K. G. M. Farouqi; 4. A. Chatterji.

In accordance with Rules 37 and 38, the Chairman declared that the names of the following Ordinary Members who had, since the last Ordinary Monthly Meeting, been suspended as defaulters within the Society's building, had now been removed from the registers for non-payment of dues:—

1. J. Anderson; 2. W. Basu-Mazoomder; 3. K. B. Chuckerbutty; 4. S. C. Mitra; 5. L. D. Stamp; 6. John Robert Seal.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all the candidates had been duly elected.



MARCH

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 6th, at 5-30 P.M.

PRESENT

DR. K. N. BAGCHI, M.B., F.I.C., D.T.M., F.N.I., Physical Science Secretary, in the Chair.

Members :

<p>Basu, Mr. J. N. Bhattacharya, Mr. S. Brown, Mr. Percy. Chatterjee, Mr. B. C. Chatterjee, Mr. P. P. Das Gupta, Mr. C. C. Edgley, The Hon'ble Mr. Justice N. G. A. Griffiths, Dr. W. G.</p>	<p>Haq, Mr. M. M. Hobbs, Mr. H. Khaitan, Mr. K. P. Nag, Dr. K. Rahman, Mr. S. K. Sukul, Mr. L. West, Dr. W. D.</p>
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The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 12 presentations of books, etc., received since the last meeting:—

- (1) From Madras Govt.—Letters to Fort St. George, Vol. 43.
- (2) From Anup Sanskrit Library—Anupasimhagunavata.
- (3) From Academy of Nat. Sc. Philadelphia—Scrofulariacea of W. Himalayas.
- (4-7) From University of Michigan—Contributions from the Laboratory of Vertebrate Biology, Nos. 21-24.
- (8-11) From Smithsonian Institution—Alaska; Island and Peoples of the Indies; Iceland and Greenland; Island Peoples of the Western Pacific.
- (12) From University of Michigan—Museum of Zoology, Miscellaneous Publications, No. 57.

The following candidates were balloted for election as Ordinary Members:—

- (19) Khan, Mohibbul-Hasan, Lecturer in History, Calcutta University, Calcutta.

Proposer: M. Z. Siddiqi. Seconder: L. Sukul.

- (20) Chatterji, Rakha Hari, M.A., B.L., Registrar of Orphans, Bengal; 7 Lakshman Dass Lane, Howrah.

Proposer: O. C. Gangoly. Seconder: K. Nag.

- (21) Ghosh, Susil Kumar, M.A., B.L., Attorney-at-Law; 48/2 Ramtanu Bose Lane, P.O. Beadon Street, Calcutta.

Proposer: P. P. Chatterjee. Seconder: K. Nag.

- (22) Saha, Akshaya Kumar, B.Sc. (Dacca), M.Sc. (Moscow), Honorary Candidate of Science, U.S.S.R., 1935; Engineer-Scientist, Officer on Special Duty, Supply Department, Government of India, c/o The Director of Industries, Patna.

Proposer: K. Nag. Seconder: S. P. Agharkar.

- (23) Das, S. A., A.L.A.A. (Lond.), Officier d' Academie (Paris), Secretary, Messrs. J. Stone & Co. (India) Ltd.; P-10 Lake Terrace, P.O. Rashbehari Avenue, Calcutta.

Proposer: M. Ishaque. Seconder: S. P. Agharkar.

- (24) Steven, J. W. R., Managing Director, Messrs. R. Sim & Co., 2 Clive Row, Calcutta.

Proposer: N. G. A. Edgley. Seconder: K. Nag.

- (25) Birla, G. D., Businessman, Birla Park, Gurusaday Road, Ballygunge, Calcutta.

Proposer: K. P. Khaitan. Seconder: K. Nag.

The General Secretary reported the following loss of membership, since the last meeting, by resignation:—

- (1) J. H. Shattock (An Ordinary Member, 1935).

The General Secretary reported that the election of:

- (1) J. C. Gupta (elected on 1-11-43)

had become null and void, under Rule 9.

The General Secretary reported that Mr. Peter Claue whose election was announced as null and void under Rule 9, at the Monthly Meeting in January, had paid his entrance fee and subscription and been admitted as a member.

The General Secretary reported that the Council since the last Ordinary Monthly Meeting had constituted various Committees of the Society, as follows:—

- (1) Library Committee:

President, General Secretary, Treasurer and all Sectional Secretaries (*ex-officio*), and Khan Bahadur K. M. Asadullah.

- (2) Publication Committee:

President, General Secretary, Treasurer and all Sectional Secretaries (*ex-officio*), and Dr. S. K. Chatterji.

- (3) Finance Committee:

President, General Secretary, Treasurer (*ex-officio*), Dr. S. L. Hora, The Hon'ble Mr. Justice N. G. A. Edgley, Mr. Percy Brown and Mr. K. P. Khaitan.

(4) *Programme Committee :*

President, General Secretary, Treasurer (*ex-officio*), The Hon'ble Mr. Justice N. G. A. Edgley, Dr. K. N. Bagchi, Dr. W. G. Griffiths, Dr. R. C. Majumdar, Mr. L. R. Fawcus, Mr. Percy Brown and Dr. W. D. West.

(5) *Bibliotheca Indica Committee :*

President, General Secretary, Treasurer (*ex-officio*), Dr. S. K. Chatterji, Dr. N. Dutt, Dr. M. Z. Siddiqi, Dr. B. C. Law, Sir J. N. Sarkar, Dr. M. Ishaque, Dr. P. C. Bagchi, Mr. M. M. Haq and Dr. Satkori Mookerjee.

The General Secretary reported, that the Council, since the last Monthly Meeting, considered a proposal from Dr. S. L. Hora, a member of Council, with regard to the participation by the Society in any discussion on the programme of the post-war scientific, industrial and cultural reconstruction of India, and they had arrived at the following decision:—

- (1) Approve the proposal of Dr. Hora ; (2) two permanent Advisory Boards, Scientific and Cultural, be constituted with powers to formulate post-war reconstruction schemes relating to science and culture; such schemes, after due scrutiny by the Boards, should be placed before the Council for their approval and in due course be forwarded to the proper authorities for necessary action; (3) the Boards to consist of:

Scientific :

Dr. M. N. Saha ; Dr. S. C. Law ; Dr. S. P. Agharkar ; Dr. K. N. Bagchi ; Dr. W. G. Griffiths ; Dr. J. B. Grant ; Dr. S. L. Hora ; Dr. W. D. West.

Cultural :

Dr. S. P. Mookerjee ; The Hon'ble Mr. Justice N. G. A. Edgley ; Dr. R. C. Majumdar ; Dr. Kalidas Nag ; Mr. C. W. Gurner ; Dr. N. Dutt ; Dr. M. Z. Siddiqi ; Dr. B. C. Law ; Mr. L. R. Fawcus ; Mr. Percy Brown ; Mr. M. Ishaque ; Mr. K. P. Khaitan ;

- (4) the Boards to have powers to co-opt additional members ; (5) each Board to appoint its own Chairman and Secretary in conformity with Rule 63 ; (6) the first meeting of the Boards to be convened by the General Secretary of the Society.

The General Secretary reported that the Council, since the last Ordinary Monthly Meeting, considered a letter from Dr. B. C. Law proposing that the talks at the Discussion Meetings should be published in a book form by the Society, and passed the following order:—

- (1) Accept Dr. Law's suggestion, and collect as many abstracts of the talks at the Discussion Meetings as possible from the beginning to date with a view to their publication ; (2) have the abstracts of the talks, questions, answers, etc. at all Discussion Meetings published in the 'Advance Proceedings' following the procedure already adopted in 1934 after the 150th Jubilee ; (3) the main talks should not be published *in extenso* but be limited to three pages of printed matter.

In accordance with Rule 48(d), the General Secretary submitted for confirmation by the meeting that the Council had allowed the continuance of the travelling allowance of Rs.150 p.m. to be paid to the General Secretary for the current financial year 1944-45.

Order: Confirm.

The following papers were read:—

1. R. D. SAKSENA.—*Anatomical Studies on Indian Plant Galls. Part II.* (Dr. S. P. Agharkar communicated the paper.) This is a continuation of a paper on the subject (Part I) published in the Society's Journal (vol. VIII, 1942, *Science*, No. 1). In this part the author gives brief accounts of the anatomical characters of some more common plant galls found in India.

The paper is illustrated by plates and text-figures.

2. BAINI PRASHAD.—*Rāja Birbal—a bibliographical Study and an Account of his Articles of Worship.* In this paper the author has endeavoured to give a bibliographical account of Rāja Birbal or Rāja Birbar who was a Hindu diplomat of Akbar's reign, and a member of the assembly of *Nau Ratna* (*Navaratna*) or the 'Nine Jewels' in his kingdom. The author has brought out several new and interesting sidelights in his character.

The author has also described the religious tenets of Rāja Birbal, basing his conclusions on the collection of Rao Bahadur Radha Krishna Jalan of Patna.

The paper is illustrated by photographs of articles of worship.

3. CHARU CHANDRA DAS-GUPTA.—*Supplement to Bibliography of ancient Indian terracotta Figurines.* This is a continuation of the article 'Bibliography of ancient Indian terracotta figurines' published in the *Journal of the Society (Letters)*, vol. IV, pp. 67-120). In this paper all writings on this topic from 1937 to date have been summarized. Indexes showing the author, find-spot, subject and geography have been added.

The following communication was made:—

1. CHINTAHARAN CHAKRAVARTI.—*A unique Work on Vedānta.* The Society possesses a manuscript of a unique work on Vedānta called the *Saugatasūtravyākhyānakārikā*, which is attributed to Kumārilasvāmin. The author finds it corrupt and intends to draw the attention of the scholars to it with a view to ascertain if any other manuscript of this work is found at any other place.

The following exhibits were shown and commented upon by the General Secretary:—

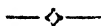
1. *Three rare and interesting Manuscripts belonging to the Society's Library.*

(a) *Meghadūta*, 'The Cloud Messenger', by Kālidāsa. Description: Country-made paper; Nāgari; dated *Samvat* 1548/1490 A.D. Manuscripts of this celebrated poem of such an early date are extremely rare.

(b) *Tahdhīb Sharḥ As-sab' Al-mu'allagāt.* This is a commentary by Imām 'Alī b. 'Abdu'l-lah Al-Wahrānī on the seven ancient poems. Copied in good old Egyptian Naskh at Qāhira (Cairo) in *Hyra* 515/1119-20 A.D. The manuscript of this work is extremely rare.

(c) *Adāb-i-'Alamgīrī.* A collection of official letters and various documents belonging to the reign of Aurangzib, written in his name by his Secretary, Abū'l Fath Qābil Khān, and collected and arranged by Šādiq Muṭṭalibī (died H. 1129/1716 A.D.). Copied in Indian Nastaliq in the 16th year of Muḥammad Shāh's reign, i.e. H. 1146/1733 A.D.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all the candidates had been duly elected.



APRIL

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 3rd, at 5-30 P.M.

PRESENT

DR. S. P. AGHARKAR, M.A., Ph.D., F.N.I., Biological Secretary, in the Chair.

Members :

Biswas, Dr. K.
Chatterjee, Mr. B. C.
Chatterjee, Mr. P. P.
Habibullah, Dr. A. B. M.
Haq, Mr. M. M.

Hobbs, Mr. H.
Nag, Dr. K.
Rahman, Mr. A. F. M. K.
Rahman, Mr. S. K.
West, Dr. W. D.

Visitors :

Benthall, Mr. A. P., Bhaduri, Mr. J. L., and Spencer, Dr. E.

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following four presentations of books received in the Library during February:—

- (1) From Karnatak Publishing House—Critical Studies in the Mahabharata.
- (2) From Harvard Yenching Institute—Vedic Exemplarism.
- (3) From Nizam Govt.—The Chenchus, Vol. 1.
- (4) From Kalidas Nag—Calcutta, Past and Present. (Indian History Congress, 3rd Session, 1939.)

The following candidates were balloted for election as Ordinary Members:—

(26) *Sen, Siba Pada*, B.A. Hons. (London), Professor of History and Politics, C.E.T., Bengal, Jadabpur; 10 Parkside Road, Kalighat, Calcutta.

Proposer: Chintaharan Chakravarti. *Seconder*: N. G. A. Edgley.

(27) *Sen, Bhupes Lobhan*, Textile Chemist, Laboratory Technical Officer, Messrs. Volkart Bros. (Dyes Dept.); 224 Bhalchandra Road, Matunga, Bombay 19.

Proposer: Chintaharan Chakravarti. *Seconder*: N. G. A. Edgley.

(28) *Band, Edward*, M.A. (Cambridge University), British Ministry of Information, Oriental Scholar; 20 Stephen House, Dalhousie Square, Calcutta.

Proposer: N. G. A. Edgley. *Seconder*: Sir Cyril S. Fox.

(29) *Rez, Sydney*, Captain, R.I.A.S.C., British Service Army Officer Attached to Indian Army; c/o Admin. Comdt. Ledo, 6 Advance Base P.O. (or c/o Messrs. Lloyds Bank, Ltd., Bombay).

Proposer: N. G. A. Edgley. *Seconder*: Sir Cyril S. Fox.

(30) *Harvey, Reginald Charles*, B.Sc., A.M.I.C.E., A.I.N.A., Executive Engineer, Indian State Railways, U.S. Club, Calcutta.

Proposer: W. D. West. *Seconder*: L. R. Fawcus.

(31) *Sara, Stanley Eric*, 103 Clive Street, Calcutta.

Proposer: Sir Cyril S. Fox. *Seconder*: N. G. A. Edgley.

(32) *Venkataramayya, Pappu*, B.E., A.A.I.E.E., Deputy Assistant Director, Office of the Electoral Commissioner, 4 Hastings Street, Calcutta.

Proposer: K. Nag. *Seconder*: N. G. A. Edgley.

(33) *Singh, Kalyan*, Raja of Bhinai, Istimardar of Bhinai, P.O. Bhinai, Dt. Ajmer-Merwara, Rajputana.

Proposer: N. G. A. Edgley. *Seconder*: O. C. Gangoly.

(34) *Prabhamoyee Devi*, M.A. (Cal. Univ.), Teacher, 18 Fern Place, Ballygunge, Calcutta.

Proposer: O. C. Gangoly. *Seconder*: L. Sukul.

The General Secretary reported the death of:—

(1) Sir David Prain, an Honorary Fellow of the Society, since 1920; Barclay Memorial Medal recipient in 1909 and 1941; Brühl Memorial Medal recipient in 1938.

A vote of condolence was passed, all present standing.

The General Secretary reported the following loss of membership, since the last meeting, by resignation:—

- (2) E. R. Gee (An Ordinary Member, 1934).
- (3) A. R. Malik (An Ordinary Member, 1941).

The General Secretary reported that the election of:

- (2) C. G. Haidar Khan (elected on 6-12-43)

had become null and void under Rule 9.

In accordance with Rule 48(a), the General Secretary reported for information of the meeting, the following changes made in the Regulations regarding the Election of Ordinary Fellows:—

Reg. 3.—For the duration of the war, the issue of the blank nomination papers be brought forward to 15th of March instead of 15th of July, and

Reg. 5.—Nomination papers must be received back by the 1st of July, instead of 1st of October.

The following papers were read:—

1. S. N. CHAKRAVARTY.—*An outline of the Stone Age in India.*

The paper contains a summary of the researches in Indian prehistory so far made. As a result of the geological and archaeological discoveries made by the Yale-Cambridge North-India Expedition under the direction of Dr. H. de Terra, the old belief of the foreign derivation of the Indus Valley civilization should be discarded. Going backwards from 3400 B.C., a correlation of the civilizations of the Indus and Tigris-Euphrates Valleys can be made out. The Mohenjodaro period corresponds to the Early Dynastic period of Mesopotamia, and the Amri to the Jemdet Nasr. Stages corresponding to the Uruk and al 'Ubaid phases of Mesopotamian civilization remain yet to be found in India. If systematic explorations were undertaken in the Indus Valley and its border lands, no doubt the gaps between the chalcolithic and neolithic periods in India could be filled up.

2. A. P. BENTHALL.—*Corypha Palms in Bengal.*

This paper gives an account of three palms found in Bengal parks and gardens belonging to the genus *corypha* Linn. These plants are remarkable for the fact that they flower only once at the end of a long life, when they produce an immense inflorescence that towers from the summit of the stem far above the crown of leaves. The principal differences between the three species are pointed out in order to facilitate their identification. A brief description of each species is given together with an account of its distribution and economic uses. One species, *Corypha Taliera* Roxb., has never been found in a wild state and is only known in Bengal gardens; it has now become rare and may be represented by only a single specimen in the Royal Botanic Garden.

3. J. L. BHADURI.—*On two Salientian Tadpoles, Rana blanfordii Boulenger and Bufo himalayanus Günther, from the Ha Valley, Bhutan, Eastern Himalayas.*

The author records in this paper two Salientian tadpoles, *Rana blanfordii* Boulenger and *Bufo himalayanus* Günther, from the Ha Valley Lake, Bhutan, in the Eastern Himalayas, at an altitude of 13,000 feet. This considerably extends the altitudinal breeding sites of the two species, and especially the distribution of the former. A description of *R. blanfordii* tadpoles has been given, illustrated by diagrams, as the previous descriptions on them are brief and inadequate.

The following exhibits were shown and commented upon:—

1. M. MAHFUZ-UL HAQ.—*A beautiful Persian Manuscript of the sixteenth century.* This beautiful manuscript of the selected verses of Hasan of Delhi, Hāfiz, Jāmi, Kātibī, Shāhī and other well-known Persian poets, was transcribed by a distinguished calligraphist, Mir 'Arab al-Husaynī, in 987/1579. He may be identical with 'Arab Shīrāzī who flourished under 'Abdullāh Qutb Shāh of Golkunda.

The manuscript is a fine specimen of superb calligraphy; it is beautifully illuminated and the margins are finely decorated with geometrical and floral designs, on paper of variegated colour.

The manuscript once belonged to the royal library of the Mughals as appears from the notes and *Arḍideā* of the Mughal librarians, two of which dated 1074/1663

(of the reign of Shāhjahān) and 1089/1678 (of the period of Aurangzib), seem to be the oldest.

2. THE GENERAL SECRETARY.—*Two Manuscripts belonging to the Society's Library.*

(a) *Mālavikāgnimitram* by Kālidāsa. Country-made paper. Nāgarī. *Samvat* 1554/1500 A.D. Such early manuscripts are very rare.

(b) *Rasā'ilu'l-Ghazālī*. Two rare treatises on Sufism by Abū Hāmid Muḥammad (born H. 451/1059 A.D.). Copied in Persian Nastaliq by Aḥmad in H. 851 and 852/1447 and 1448 A.D.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all candidates had been duly elected.



MAY

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 1st, at 5-30 P.M.

PRESENT

K. P. KHAITAN, ESQ., M.A., B.L., Barrister-at-Law, Member of the Council, in the Chair.

Members :

Biswas, Dr. K. P.	Hawas, Mr. R. M.
Chatterjee, Mr. B. C.	Hendric, Mr. J. H.
Chatterjee, Mr. P. P.	Hobbs, Mr. H.
Culshaw, Rev. W. J.	Meyer, Miss S.
Edgley, The Hon'ble Mr. Justice N. G. A.	Mitra, Miss P.
Gangoly, Mr. O. C.	Nag, Dr. Kalidas
Griffiths, Dr. W. G.	Rahman, Mr. A. F. M. K.
Habibullah, Dr. A. B. M.	Ray, Mr. S.
Hai, Mr. H. M. Abdul	Venkataramayya, Mr. P.
Hag, Mr. M. M.	

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 11 presentations of books, etc., received in March for the library:—

- (1) From Kalidas Nag—Report of the Special Committee on Education.
- (2) From A. V. Hill—Scientific Education and research in relation to National Welfare.
- (3) From S. C. Chatterjee—Magadha Architecture and Culture.
- (4) From H. H. Goswami Shri Govind Lalji—Imperial Farmans.
- (5) From R. Shafer—Further analysis of the Pyu Inscriptions.
- (6) From Indian Science Congress Assn.—Proc. 30th Congress.
- (7) From Madras Govt.—Letters from Fort St. George, Vol. 30.
- (8) From Madras Govt.—Letters from Fort St. George, Vol. 38.
- (9) From Madras Govt.—Diary and Consultation Book, Vol. 85.
- (10) From Annamalai University—A History of the Gingee and its Rulers.
- (11) From Govt. of U.P.—Final Settlement Report of Gonda District.

The following candidates were balloted for election as Ordinary Members:—

(35) *Rahman, Fazlur*, M.A., B.L., M.L.A., Chief Whip, Government of Bengal; 84 Jhowtollah Road, P.O. Circus, Calcutta.

Proposer: A. B. M. Habibullah. *Seconder*: A. F. M. K. Rahman.

(36) *Saksena, Jagdamba Prasad*, B.A., B.T. (B.H. University), Headmaster, Orient Paper Mills Middle English School, Brajrajnagar, Dt. Sambalpur, Orissa.

Proposer: M. S. Alimuddin. *Seconder*: K. Nag.

(37) *Husain, Mahdi*, M.A., Ph.D., D.Litt., Lecturer, Calcutta University, o/o The Department of Islamic History and Culture, Darbhanga Buildings, Calcutta.

Proposer: K. Nag. *Seconder*: R. C. Majumdar.

(38) *Chanda, Apurva Kumar*, M.A., I.E.S., Principal, Presidency College, College Street, Calcutta.

Proposer: K. Nag. *Seconder*: S. K. Chatterji.

(39) *Demetrius, St. John*, Chartered Accountant, Proprietor, Messrs. George Read & Co., 1 Avenue House, Chowringhee Square, Calcutta.

Proposer: H. Hobbs. *Seconder*: K. Nag.

(40) *Ganguly, Sarat Kumar*, Member of the International Educational Council, Haron, U.S.A., Assistant Teacher, H.C.H.E. (Govt. Aided) School, Abusaleh Road, Gaya.

Proposer: M. S. Alimuddin. *Seconder*: K. Nag.

(41) *Boulbee, H. L.*, Major, Indian Army, No. 2, C.T.C., 30 Advance Base P.O.

Proposer: M. S. Alimuddin. *Seconder*: K. Nag.

(42) *Ball, Cyril Francis*, Missionary, Principal, Bankura Christian College, Bankura.

Proposer: W. J. Culshaw. *Seconder*: K. Nag.

(43) *Elwin, Verrier*, D.Sc. (Oxon), F.N.I., F.R.A.I., Field-Anthropologist, Bhumijan Seva Mandal, P.O. Patangarh, Dindori Tahsil, Mandla Dt., C.P.

Proposer: B. S. Guha. *Seconder*: B. N. Chopra.

(44) *Agrawal, Bhuramal*, B.A., B.L., Advocate, High Court; 1-B Old Post Office Street, Calcutta.

Proposer: R. D. Chokhani. *Seconder*: K. Nag.

(45) *Goetz, Hermann*, Ph.D., Art Historian, Curator, Baroda State Museum and Picture Gallery, Baroda.

Proposer: B. Bhattacharyya. *Seconder*: N. Dutt.

The General Secretary reported the following loss of membership, since the last meeting, by death:—

(2) D. E. W. Blaikie (An Ordinary Member, 1944).

The General Secretary reported the following loss of membership, since the last meeting, by resignation:—

(4) F. St. G. Spendlove (An Ordinary Member, 1942).

In accordance with Rule 48(a), the General Secretary reported that the Council, since the last Ordinary Monthly Meeting, had adopted certain additional regulations regarding the library, as follows:—

1. The Staff attached to the Library in all its sections shall be directly under the care and supervision of the Librarian.
2. The Librarian shall maintain an Attendance Register as well as a Diary for the staff, to be countersigned by him every day.
3. All bills relating to purchase of books shall be certified by the Librarian before payments are made. The certificate should include the accession numbers assigned to the books.
4. No expenditure on any other item pertaining to the Library, e.g. binding, preservation, etc., shall be sanctioned except after a report from the Librarian and no payment shall be made on that account without a certificate from the Librarian.
5. No papers or correspondence, etc., pertaining to the Library shall be referred by the office direct to any member of the Library staff other than the Librarian.
6. The Librarian shall be furnished with imprest-money, not exceeding Rs.25, to meet contingent expenses, relating to the Library, which amount shall be recouped at the end of every month. Imprest cash shall be made available to the Librarian through the Cashier.
7. The Librarian shall maintain a register showing the monthly requirements of stationery by the members of the Library staff, which shall be supplied from the General Office on the last day of each month.

8. During the time the Librarian is away and for Saturday and holiday turns he shall take steps to place one responsible person in charge.

The Chairman called upon Dr. K. P. Biswas to read an obituary notice of the late Sir David Prain (An Honorary Fellow of the Society since 1920).

The following papers were read:—

1. H. F. MOONEY.—*A list of Plants recorded from the Pāts of Ranchi and Palamau Districts and the States of Jashpur and Surguja.*

In this paper, the author has given a list of 630 plants collected or noted by him in the Pāts of Ranchi and Palamau Districts, and the States of Jashpur and Surguja in Bihar. ('Pāts' is the local name for tablelands. The Pāts are remarkable for the level nature of their summits which have a general altitude of 3,400 to 3,000 feet above the sea-level. The best known of these is the Netarhat Pāt in the Palamau District, 3,500–3,700 feet.) He has also added to the list species recorded by Haines in his *Botany of Bihar and Orissa* as occurring at Netarhat on the higher hills of the Ranchi and Palamau Districts. The great majority of records have been made at altitudes exceeding 3,000 feet but in some cases specimens in elevation down to 2,500 feet have also been included. Short notes are given of the habitat and locality in which each plant was observed.

2. YANG CHIH-CHIU.—*A new Discovery referring to Marco Polo's Departure from China from the Chinese Sources.*

Much has been done to the solution of the many puzzled questions in the book of Marco Polo. The identification of places, interpretation of strange terms, the illustration of obscure customs—all these have been largely worked out by the laborious researches of the lovers of this Venetian traveller.

Marco Polo has undoubtedly resided in China for a long time, but none has been able so far to find mention of him in any Chinese sources of information.

The author came across a Chinese book, entitled Jan-Chi, which is an odd collection of Governmental documents containing regulations and ordinances regarding the post system in the Mongol period of the Chinese history. Although the name of Marco Polo is not mentioned in this book, the author has noticed certain resemblances in details in Jan-Chi and the book of Marco Polo.

Conclusions.

3. TSOMING N. SHIAH.—*Some etched Carnelian Beads from Egypt.*

In this short paper, the author by a study of the designs and etchings of the carnelian beads from Egypt has endeavoured to show that the beads are valuable archaeological evidence for revealing the culture of a country.

4. SUKUMAR RAY.—*Humāyūn in Persia.*

The paper gives a detailed account of Humāyūn's life and sojourn in Persia. It describes his journey to the Shāh's court, reception by the Shāh, breach between the two monarchs, Humāyūn's conversion to the Shiah faith and *rapprochement* with the Shāh, his return to Qandahār via Tabriz and Ardabil and the occupation of Qandahār with the help of the Persian force. Many new details have been given about the route followed by Humāyūn on his way to the Safavid court, and return homewards, the treatment accorded to him by Shāh Tahmāsp as well as the description of the ceremonies and festivities in which Humāyūn participated. The chronology has been critically examined and reconstructed and the correspondence between Humāyūn and Shāh Tahmāsp is utilized and published for the first time. The question whether Humāyūn accepted the Shiah faith and lived and died as a Shiah has been fully discussed. The sieges of Qandahār have also been critically studied and a thorough and careful study of several MSS. of Jauhar, the main original authority for the subject, has revealed new facts. The romance of the

famous diamond Koh-i-noor, which Humāyūn presented to the Shāh, has also been narrated.

The paper is based on all available materials, printed Persian works as well as unpublished Persian MSS. in India and Europe. Works, compiled by Persian chroniclers in Persia, have also been utilized to do full justice to the Safavid or Persian standpoint.

The following exhibits were shown and commented upon:—

1. M. MAHFUZ-UL HAQ.—*A valuable Persian Manuscript of the Poems of Ṣanā'ī.*

This precious, little manuscript of the *Dīwān* of Ṣanā'ī, a distinguished Persian poet who came to India during the reign of the emperor Akbar, about 985/1577, has the following noteworthy features:—

- (i) It is, apparently, the oldest copy of the *Dīwān* of the poet that has yet come to light; it was copied in 1038/1628, or only 70 years after the death of the poet, which took place in 966/1588;
- (ii) It contains Ṣanā'ī's very rare *Maḡnavī* poem, entitled *Sadd-i-Sikandar*, or *Bāgh-i-Iram*, which he dedicated to the emperor Akbar. No copy of the work is known to exist in India; only a defective copy (No. 250) is preserved in the O.P. Library, Patna. In Europe too, only the Bodleian Library possesses two copies (Nos. 1048 and 1049), the older of which is dated 1108/1696.

2. THE GENERAL SECRETARY.—*Three Manuscripts belonging to the Society's Library.*

(1) Rasadīpikā (No. I.M. 3622) by Ānandānubhava Yogin. Country-made paper. Nāgarī. Samvat 1462 = A.D. 1404. This is an important work on Hindu Chemistry, copies of which are extremely rare. Only two other copies are known, both of them undated and apparently not very old. Apart from the value of the text dealing with a branch of positive science, which, some say, the Hindus ignored, its date in the beginning of the fifteenth century A.D. is a sufficient evidence of the importance of the present copy.

The author, Ānandānubhava Yogin, wrote two other works, namely, Tarkadīpikā and Nyāya Kandali. His date is not definitely known, but, as the present manuscript shows, it cannot be later than the fourteenth century A.D. The work has been mentioned by one Vaidyārāja in his *Sukhabodha*, which was composed in the year 1624, either 1567 or 1702 A.D., according as the year is referred to the Vikrama or the Śaka era. Perhaps the author is the same as Ānanda, the Naiyāyika, or Ānanda, the Vaidya, who was one of the celebrated guests at the reception held by Mankha, a Kashmirian poet who flourished in the first half of the twelfth century A.D., on the occasion of the completion of his famous poem, *Śrīkaṇṭhacaritam*.

(2) Sirāju'l-Mulūk (No. 1243): The flambeau of Kings by Abū Bakr Muḥammad bin Walid at-Turtūshā, who was born at Turtūsh (Tortosa, a town in Aragon, Spain) in A.H. 451 = A.D. 1059. He came to Baghdād and Basra for study and stayed for a long time in Syria. He died in Alexandria in A.H. 520 = A.D. 1126.

The text deals with the duties of sovereigns and their rules of conduct illustrated by copious historical anecdotes.

The work was dedicated to Nizāmu'd-Dīn Abū 'Abdullah Muḥammad al-'Āmirī, who was appointed Wazīr by the Fatimide Khalif al-'Āmir in A.H. 515 = A.D. 1121 and was deposed in A.H. 519 = A.D. 1125.

Written in good Arab Naskh—probably in the thirteenth century A.D.

(3) Latā'ifu'l-Akhhār (No. 156) composed by Mirzā Badiu'z-Zaman Rashīd Khān (died A.H. 1107/1695-96) probably under the orders of Prince Dārā Shikūh, the eldest son of Emperor Shāh Jahān who met with a tragic death at the hands of his brother Aurangzib in 1659 A.D.

The work, sometimes also known as *Tārīkh-i-Qandahārī*, gives a detailed account of the siege of Qandahār by Dārā Shikūh and is divided into three sections:—

- (i) Account of some previous events up to the march of Dārā Shikūh to that place in A.H. 1063 = A.D. 1652-53.
- (ii) Events of the siege of Qandahār, recorded day by day, from the 10th of Jumada to the 15th of Zulqā'da, A.H. 1063 = A.D. 1652-53.
- (iii) Return of the prince to Multān.

Besides anecdotes, it contains valuable historical and geographical information. Written in clear Nasta'liq about 100 years ago.

In the copy there is a note on the fly-leaf, probably by H. Blochmann.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all candidates had been duly elected.



JUNE

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 5th, at 5-30 P.M.

PRESENT

Dr. S. L. HORA, D.Sc., F.Z.S., F.R.S.E., F.N.I., F.R.A.S.B., Member of Council, in the Chair.

Members :

Chatterjee, Mr. P. P.
Chatterji, Mr. D. C.
Haq, Mr. M. M.

Khaitan, Mr. K. P.
Nag, Dr. Kalidas
West, Dr. W. D.

At the outset, the Chairman announced the death of Dr. Sir Baron Jayatilaka, Kt., who was a Special Honorary Centenary Member of the Society, elected at the Annual Meeting on 7th February, 1944.

Dr. Kalidas Nag gave a life sketch and work of Dr. Jayatilaka, after which a vote of condolence was passed, all present standing.

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following five presentations of books, etc., which had been placed on the table for inspection:—

(1-4) From Smithsonian Institution—An Introduction to the ceramics of trees Zapotes Vera-Cruz, Mexico; Archaeological Investigation in Platte and Clay countries, Missouri; Burma—Gateway to China; Annual Reports of the Board of Regents, 1942.

(5) From Trustees, Prince of Wales Museum—Report for the year 1942-43.

The following candidates were balloted for election as Ordinary Members:—

(46) *Ghani, Osman*, M.A. (Hist. and Eng.), Professor of English; Now Librarian, Bengal Library, Writers' Buildings, Calcutta.

Proposer: C. Isch Wall. *Second*: R. C. Majumdar.

(47) *Dutton, Neville Charles*, Assistant Commissioner of Commercial Taxes, Bengal; St. Xavier's College Hostel, 30 Park Street, Calcutta.

Proposer: N. G. A. Edgley. *Second*: L. R. Fawcus.

(48) *Hutchinson, Edward Walter*, M.A. (Cantab.), c/o The Hongkong and Shanghai Banking Corporation, Calcutta.

Proposer: H. Hobbs. *Second*: N. G. A. Edgley.

(49) *Sharma, Shreenarayan*, I.A.M.S., Bhishagaratna, M.A.S.F., Ayurvedacharya, Kaviraj, Baidyashiromani, in charge M.R. Society Ayurvedic Rasayanshala, P.O. Champanganagar, Bhagalpur.

Proposer: R. C. Majumdar. *Second*: Satkori Mookerjee.

(50) *Irwin, J. C.*, Captain, Private Secretary to H.E. The Governor of Bengal, Government House, Calcutta.

Proposer: E. B. H. Baker. *Seconder*: N. G. A. Edgley.

(51) *Ahmed, Jamil*, B.Sc., LL.B., Sub-Editor and Monitor, Counter-Propaganda Directorate, Government of India, Bothwell, Simla.

Proposer: David Roy. *Seconder*: J. P. Mills.

(52) *Edwards, L. Brooke*, Chief Mission Officer, United States Foreign Economic Administration, 1 Esplanade Mansions, Calcutta.

Proposer: K. Nag. *Seconder*: R. C. Majumdar.

(53) *Benthall, Arthur Paul*, Partner, Messrs. Bird & Co., Chartered Bank Buildings, Calcutta.

Proposer: Kalipada Biswas. *Seconder*: K. Nag.

(54) *Haldar, Balaram*, M.A., B.Sc., B.L., Rector, M.E. School, English Bazar, Puratuli, Malda.

Proposer: S. K. Chatterji. *Seconder*: M. M. Haq.

(55) *Mitra, Prokash Chandra*, B.E., A.M.I.E. (India), Consulting Engineer, Proprietor, P. C. Mitter & Co., 98 Clive Street, Calcutta.

Proposer: R. C. Majumdar. *Seconder*: K. Nag.

The General Secretary reported the following loss of membership since the last meeting, by death:—

(3) Sivaprasad Gupta (An Ordinary Member, 1919).

(4) Dr. H. Lueders (An Honorary Fellow, 1939).

In accordance with Rule 48(a), the General Secretary reported that an application for the loan of four MSS. had been received from the Bhandarkar Oriental Research Institute, Poona. The Council, at the last meeting, considered the application, and found that lending of more than two MSS. at a time was contrary to the Regulations, and so they have referred this matter to the Monthly Meeting with a recommendation for sanction as a special case.

The meeting sanctioned the loan.

The following papers were read:—

1. LO CH'ANG-PEI (of Peking).—*The Genealogical patronymic linking System of the Tibeto-Burman speaking Tribes.* (Read by Mr. D. C. Chatterji.)

The genealogical patronymic linking system is a dominant cultural trait of the Tibeto-Burman speaking tribes which, besides the physiological and linguistic factors, can help to determine the relations between the various tribes and throw light on some of the historical problems about the descent and inter-relationships of the *Houses* which have long baffled enquiry. The author writes this treatise with the hope that those interested in the problem, whether anthropologists, ethnologists or linguists, may supplement or revise what is stated in this paper so as to solve this problem satisfactorily.

2. K. K. NAIR.—*On the Systematics of certain Eel-like Fishes of the Ganges.* (Read by Dr. S. L. Hora.)

The author elucidates the systematic position of two estuarine, eel-like fishes described by Hamilton from the neighbourhood of Calcutta in 1822. After a detailed analysis of the data, he concludes that the *Boro* Fish should be designated as *Pisodonophis hijala* (Hamilton), of which *P. boro* (Hamilton) is a synonym, and *Rakta Boruya* should be known as *Moringua (Raitaboura) raitaboura* (Hamilton). The material for the article was obtained from the Pulta Waterworks and from the measurements of the specimens it seems probable that the elvers of *P. hijala* ascend

the Hooghly River during the cold weather—November to January. As the eels are capable of making deep burrows, their presence in the filter beds may cause damage to the vital layer but generally the young specimens were not found in burrows.

The following three MSS. belonging to the Society were exhibited by the General Secretary:—

(1) *Devī-Māhātmya* (I.M. 10336). Country-made paper. *Nāgarī*. *Samvat* 1796/1738 A.D. This celebrated poem dealing with the exploits of the Devī, the Supreme Goddess, forms a part of the *Mārkaṇḍeya Purāṇa*. It is popularly known as the *Caṇḍī*, after a well-known name of the Goddess herself and is an object of great veneration and devout worship in Śākta families. It runs into seven hundred verses, for which reason it is also known as the *Saptśatī*.

In sweet, sonorous and inimitable verses the work recounts the exploits of the Devī, divided into three main sections, known as *Caritras*. The particular value of this manuscript consists in the numerous miniature paintings illustrating the different stories. To persons familiar with the western traditions they may appear to be crude, but certain qualities of drawing, composition and colour scheme may be recognized in them by connoisseurs. They are specially interesting as invaluable documents of the indigenous trend in painting, and evidences of such a trend, when the spell of the Mughal school of painting after its brilliant upheaval in the time of Jahangir was not yet broken, are extremely rare. Some of the paintings also represent interesting iconographic studies, worthy of attention by experts.

(2) *Al-Faḍā'il al-Bāhira fī Maḥāsin Miṣr wa'l Qāhira* (1286). A historical and descriptive account of Egypt and Cairo, composed in 861/1456 by Muḥammad Abū Hāmid al-Qudsi al-Miṣri ash-Shāfi'i, known as Ibn Zāhir (born in Jerusalem in 820/1417, lived in Cairo, and died in 888/1483).

The work deals with a brief history of Egypt from the earliest period to the author's time. It gives a detailed description of the districts and provincial towns of the country, of its natural phenomena and products, of its wonders and curiosities of nature and art, of its fortresses, mosques and sanctuaries, of its prophets, philosophers and learned men. It contains ancient traditions relating to Egypt's excellence and her glories and select pieces in prose and verse descriptive of Egypt and its beauties. It has also a special description of al-Qāhira (Cairo) in all its details.

Incomplete, some folios missing at the end.

The title-page is ornamented, written in Arab Naskh towards the end of the fifteenth or beginning of the sixteenth century A.D.

(3) *Fatīhiyya-i-'Ibriyya* (158). A history of the conquest of Cooch Bihār and Āśām, under the leadership of Khān Khānān Muḥammad Sa'id Ardīstānī, better known as Mirjumla, by Muḥammad Walī Aḥmad, surnamed Shihābu'd-Dīn Tālīsh.

The history of the event, which happened in the 4th and 5th years of the reign of Aurangzeb (1072-73/1662-63), is divided into a Muqaddama and two Maqālās, as follows:

Muqaddama—Causes of the march of the Imperial army into Kūch Bihār and Āśām.

Maqālā I—Khān Khānān's march against Bīm Narāyan and conquest of Kūch Bihār.

Maqālā II—Conquest of Āśām.

It also gives descriptions of the two countries and their inhabitants.

Written in clear Nasta'liq about 100 years ago. There is a note on the fly-leaf by H. Blochmann, dated 1870.

The Chairman announced the result of the ballot for the election of the Ordinary Members and declared that all candidates had been duly elected.



JULY

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 3rd, at 5-30 P.M.

PRESENT

DR. SYAMAPRASAD MOOKERJEE, M.A., B.L., D.L.M., LL.D., Barrister-at-Law, President, in the Chair.

Members :

Agrawal, Mr. B. M.	Hobbs, Mr. H.
Akbar, Mr. M.	Khaitan, Mr. K. P.
Bagchi, Dr. K. N.	Mukherjee, Dr. J. N.
Basu, Mr. J. N.	Mukherjee, Dr. R. K.
Chatterjee, Mr. B. C.	Nag, Dr. Kalidas
Chatterjee, Mr. P. P.	Rao, Miss S.
Edgley, The Hon'ble Mr. Justice N. G. A.	Saran, Dr. P.
Fawcus, Mr. L. R.	Singh, Mr. P.
Ghoshal, Dr. U. N.	Sen, Mr. A. K.
Ghose, Mr. G. P.	West, Dr. W. D.

Visitors :

Patuka, Mr. A. B.	Ray, Mr. P.
Ray, Mr. H. C.	and many others.

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 73 presentations of books, etc., received in May for the Library, which had been kept on the table for inspection:—

- (1) From Bangiya Sahitya Parishad—Hand-book to the Sculptures in the museum of the B.S. Parishad.
- (2) From University of Mysore—Annual Report, 1942.
- (3-5) From Bangiya Shitya Parishad—Rajmohan's wife; Letters on Hinduism; Essays and Letters.
- (6-7) From Royal Society—Year-Books for 1940 and 1944.
- (8-47) From Imperial Library—Sunshine and Storm in Rhodesia; Mem. sur les Barrages; Hist. of Indian Administration of Lord Ellenborough; 20th Report and Proc. of the Calcutta School Book Society; Hand-book of the Trade Products of Leh; Attempt to elucidate the principles of Malayan Orthography; Sri Naradapancartram; Mahavansi Raja Ratnachari, Vol. 2; Mahabharata, Adiparva; Strangers East Indian Guide to Hindustan; Ao-Ken Tameshi, Sacred Hymns; Fayami and Lake Maeris; Cat. of MSS., Bishop's College Library, Calcutta; Narrative of the Campaign of British Army in Spain; Selections from the Prem Sagar; Report Carte and Carew papers; Year book of Facts; Chronicles and Memorials of G. Britain and Ireland during Middle Ages, Vol. I, Pt. I; Des. Cat. of materials relating to the Hist. of Great Britain and Ireland, Vol. I, Pt. 2; Letters and papers re the reign of Henry VI, Vol. 1; Bombay Qly. Review, Vols. 3 and 5; Oriental Herald, 13, 22, 23; Rolls and Records of the Courts, held before King's justices, Vol. 1; Treatise on obligations and contracts, Pt. 1; Bombay Qly. Review, Vol. 2; Political Register, Vol. 8; Eur-Aryan Roots, Vol. 1; Patmakhanda, Vols. 1 and 2; JI. of the Indian Archipelago, Vols. 2, 5, 9; Les Anglais, et L' Inde; Tableau des etats Darcis, Tom 3; Mem. d'un ministre, Toms 2 and 3.
- (48-54) From U.S. Dept. of Interior Geological Survey—Surface Water Supply of the United States, parts 1, 2, 4, 7, 8, 9 and 13.
- (55) From Smithsonian Institution—Compendium and Description of the West Indies.
- (56) From Univ. of Illinois—Studies in the Social Sciences, Nos. 1-4.
- (57) From Smithsonian Institution—Annals of the Astrophysical Observatory of the Smith. Inst., Vol. 6.
- (58-61) From Dion. State Geological Survey—Marzocarbon Oedipternum and Sigillarium Relationships, No. 75.
- (62) From Amer. Hist. Assn.—Annual Report, 1942.
- (63) From Smithsonian Institution—Bureau of American Ethnology, Bull. 140.
- (64) From John Hopkins University—Studies in Historical and Political Science, etc., Vol. 61.
- (65) From U.S. National Museum—Report, 1943.
- (66) From Hirananda Sastri—Archaeology and Indian History.
- (67) From Anup. Sans. Liby.—Akabarasahi-Sringaradarpana.
- (68) From N. G. Suru—Auvavaiya Suttam.
- (69-73) From B. H. Kalandari—Pramananaya-tattvalokalankara, Pts. 1-5.

The following candidates were balloted for election as Ordinary Members:—

(56) *Kejriwal, Rameshwar*, B.A., Merchant, P.O. Jasidih, Santal Pergs., Behar.

Proposer: B. M. Agrawal. *Seconder*: C. C. Das Gupta.

(57) *Khemka, Madanlal*, President, Marwari Chamber of Commerce and Councillor, Calcutta Corporation, 63 College Street, Calcutta.

Proposer: B. M. Agrawal. *Seconder*: C. C. Das Gupta.

(58) *Holloway, John E.*, Technical Sergeant, U.S.A. Forces, New Delhi.

Proposer: C. C. Das Gupta. *Seconder*: K. Nag.

(59) *Birla, Krishna Kumar*, Businessman, 8 Royal Exchange Place, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: C. C. Das Gupta.

(60) *Birla, G. Prasad*, Merchant, 8 Royal Exchange Place, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: C. C. Das Gupta.

(61) *Birla, B. Kumar*, Merchant, 8 Royal Exchange Place, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: C. C. Das Gupta.

(62) *Birla, Madhav Prasad*, Merchant, 19 Gurusaday Road, Ballygunge, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: C. C. Das Gupta.

(63) *Mullick, Birendra*, Landholder, Marble Palace, 46 Mukhtaram Babu Street, Calcutta.

Proposer: B. C. Law. *Seconder*: K. Nag.

(64) *Seal, Mahadeb Chandra*, Landholder and Cashier of Civil Bank of India, Ltd., 15-A Nimitalla Lane, P.O. Beadon St., Calcutta.

Proposer: M. M. Bose. *Seconder*: K. Nag.

(65) *Ashutosh Brahmachary*, Ramkrishna Vedanta Math, 19-B Raja Rajakrishna Street, Calcutta.

Proposer: C. C. Das Gupta. *Seconder*: K. Nag.

(66) *Das Gupta, Subikas*, B.Sc. (Cal.), M.Sc. Tech. (Manchester), A.I.C. (London), Textile Business, 80 Park Street, Circus, Calcutta.

Proposer: K. Nag. *Seconder*: K. N. Bagchi.

(67) *Sen Gupta, Sailendranath*, M.A., Bengal Civil Service (Judicial Branch), Munsif, Dubrajpur, Bengal.

Proposer: R. C. Majumdar. *Seconder*: D. C. Chatterji.

The Chairman announced the result of the ballot for the election of the Ordinary Members and declared that all candidates had been duly elected.

The Monthly Meeting was then dissolved and a Special Commemoration Meeting was held.

SPECIAL COMMEMORATION MEETING IN HONOUR OF THE LATE ACHARYA SIR PRAFULLA CHANDRA RAY, Kt., C.I.E., D.Sc., F.R.A.S.B.

Dr. S. P. Mookerjee, M.A., B.L., LL.D., D.Litt., Barrister-at-Law, President, was in the Chair.

The Chairman called upon the following to make short speeches on the life and work of the late Acharya Sir P. C. Ray:—

- | | |
|-------------------------|-------------------------|
| 1. Dr. W. D. West. | 4. Dr. R. K. Mukherjee. |
| 2. Dr. P. R. Ray. | 5. Dr. J. N. Basu. |
| 3. Dr. P. Saran. | 6. Mr. L. R. Fawcus. |
| 7. Dr. J. N. Mukherjee. | |

In summarizing, the President said 'Sir Prafulla Chandra Ray belongs to that class of great men who never die. The work which Sir P. C. Ray had left behind

was imperishable. As time came the people of Bengal and India would realize what great part he played in the making of the national life of his motherland. Just 50 years ago, Dr. Ray had sent his first paper to be published in the Proceedings of the Society dealing with chemical examination of certain Indian food-stuffs. Half a century ago he had felt the need for a more satisfactory scientific analysis of Indian food-stuffs, a problem which had been agitating the minds of Indian scientists today'.

'Sir P. C. Ray was a great scientist; he was famous for having built a school for Indian chemistry but his real greatness lay not merely in the fact that he had attained personal eminence but in the fact that he knew the art of making other people great and eminent. Indeed he was one of those men who never lived for himself. Whatever he did he gave to others and his great aim and ambition was to elevate his poor and unfortunate country. A man like Sir Prafulla Chandra Ray is not going to be born in India every day. His memory would remain fresh in the minds of his countrymen not only for the present generation but for generations yet unborn. The best way in which his countrymen can offer homage to his memory is to carry on dauntlessly the great work which he has begun.'

The Chairman requested those present to rise in respect for the late Acharya Sir P. C. Ray and to pass a resolution as follows:

'The Royal Asiatic Society of Bengal do hereby express its great sorrow at the demise of Acharya Sir Prafulla Chandra Ray, 'Kt., C.I.E., D.Sc., F.R.A.S.B., who was the seniormost Ordinary Fellow and one of the seniormost Ordinary Members of the Society.

'The Society places on record its deep appreciation of the great services rendered by the late Dr. Ray for the advancement of Science, for the application of chemistry to the development of Indian industries and for the creation of a school of scientific research in this country.

'The Society also places on record its profound appreciation of his lifelong devotion to the cause of education in general and to that of the indigent students and research scholars in particular.'

The resolution was adopted unanimously, all present standing.



AUGUST

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 7th, at 5-30 P.M.

PRESENT

THE HON'BLE MR. JUSTICE N. G. A. EDGLEY, M.A., I.C.S., J.P., Barrister-at-Law, Vice-President, in the Chair.

Members :

Agharkar, Dr. S. P.
Bagchi, Dr. K. N.
Chatterjee, Mr. P. P.
Fawcus, Mr. L. R.

Haq, Mr. M. M.
Hobbs, Mr. H.
Nag, Dr. Kalidas
Rahman, Mr. S. K.
Ray, Mr. S. K.

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 14 presentations of books, etc., received in June for the Library, which had been kept on the table for inspection by the members:—

- (1) From B. C. Law—Ujjayini in Ancient India.
- (2-3) From State Geological Survey, Urbana—Illinois Mineral Industry in 1941; Oil and Gas Map of Illinois.
- (4) From Royal Society, Edinburgh—Year Book for 1944.

- (5-6) From Mr. S. K. Saraswati—Temples at Pagan; Indo-Muslim Architecture in Bengal.
 (7-8) From Imperial Library—Author Cat. of Printed Books in Bengali Language, Vols. 1 and 2.
 (9-10) From B. C. Law—Mountains of India; Rivers of India.
 (11-13) From the Smithsonian Institution—Anthropological Papers, Bulletin Nos. 117, 133 and 134.
 (14) From the Illinois University—Biological Monographs, Vol. 19.

The following candidates were balloted for election as Ordinary Members:—

(68) *Dewsbury, Gelson Thomas*, Flying Officer, Royal Air Force, c/o Messrs. Lloyds Bank Ltd., New Delhi.

Proposer: K. Nag. *Seconder*: W. J. Culshaw.

(69) *Chatterjee, S. P.*, Medical Practitioner, 56 Gariahat Road, Ballygunge, Calcutta.

Proposer: K. Nag. *Seconder*: W. J. Culshaw.

(70) *Bailey, William*, M.A. (Sheff.), Missionary, United Christian Training College, Berhampur, Murshidabad.

Proposer: W. J. Culshaw. *Seconder*: Sir Cyril Fox.

(71) *Jan, Agha Muhammad*, F.T.S., and Member of G.W.C.S., League (London), Gulzarbagh, Patna.

Proposer: S. K. Rahman. *Seconder*: M. M. Haq.

(72) *Bradley, Gerard Anthony*, Lance Corporal, Army (Intelligence Corps), E.W.S.C., 12 Advance Base P.O., India Command.

Proposer: N. G. A. Edgley. *Seconder*: Sir Cyril Fox.

(73) *Poddar, Biswanath*, Merchant and Businessman, 115-A Chittaranjan Avenue, Calcutta.

Proposer: Sir Cyril Fox. *Seconder*: K. L. Poddar.

(74) *Patel, Hari Ram*, Mineowner and Businessman, P-301 Southern Avenue, Suite No. 6, P.O. Kalighat, Calcutta.

Proposer: Sukumar Ray. *Seconder*: K. Nag.

(75) *Elmhirst, Leonard Knight*, M.A. (Cantab.), B.Sc. Agri. (Cornell), Special Officer, Bengal Department of Agriculture; United Service Club, Calcutta.

Proposer: S. L. Hora. *Seconder*: L. R. Fawcus.

The General Secretary reported that the election of:

(1) Siva Narayan Sen (elected on 7-2-44)

had become null and void under Rule 9.

In accordance with Rule 48(a), the General Secretary reported for confirmation by the meeting, the following addition made to item No. 12 of the 'Regulations regarding the Library', which was passed by the Council at their meeting on the 24th July:—

'and in no case shall the borrower be permitted to retain the books for more than one month thereafter'.

Order: Confirm.

The General Secretary reported the following loss of membership, since the previous meeting, by death:—

(7) Bahadur Singh Singhi (An Ordinary Member, 1912).

The Chairman called upon Mr. Chhotelal Jain to read an obituary notice of the late Mr. Singhi.

A vote of condolence was then passed, all present standing.

The following papers were read:—

1. Y. C. SUN.—*The Silurian Stratigraphy of Yunnan.*

Silurian rocks have long been known in many places in South China, particularly in Hupei and Yunnan. The Silurian of Yunnan has been referred to the Upper Silurian by Ting and Grabau, while that of Hupei was assigned to the Lower Silurian by Hsieh and Chao. Grabau correlated the Silurian of Yunnan with that of North America, and compared the Silurian of Hupei with that of Europe. Consequently he concluded that a great hiatus exists between Lower and Upper Silurian, the Middle Silurian being absent.

The recent work of the author and his colleagues has proved that the Upper Silurian of E. Yunnan includes the Middle Silurian, the Upper Silurian and the lower part of the Lower Devonian, and that the Silurian of Hupei also contains several units. The existence of the Middle Silurian is proved by the discovery of the graptolite *Cyrtograptus* in W. Yunnan, and of coral faunas in E. Yunnan.

2. Y. C. SUN.—*The Devonian Subdivisions of Yunnan.*

Although Devonian fossils have long been known from Yunnan, the stratigraphy of the Devonian rocks has remained obscure.

The Devonian of Yunnan can be subdivided into an early and a late period. The early Devonian sediments are mainly continental, representing deposition in an inland and oscillatory sea, and they may be compared to the Old Red Sandstone of Europe. Later a transgression of the sea took place, and the sediments deposited during this period were similar to the normal marine type of Central Europe.

3. H. C. WANG.—*The Silurian Rugose Corals of Northern and Eastern Yunnan.*

The fossil corals listed in this paper come from the Middle Silurian. They closely resemble the corals found in the Gotlandian of Gotland and in the shelly facies of the Silurian of England.

4. H. C. WANG.—*The Middle Devonian Rugose Corals of Eastern Yunnan.*

The Middle Devonian of Eastern Yunnan is well developed and contains abundant rugose corals. These belong mainly to two groups, the *Cystiphyllacea* and the *Cyathophyllacea*, and their development during the Middle Devonian is described. Owing to the different routes of development followed by the Chinese and by the European forms, correlation of the different stratigraphical zones in both regions is only possible in a broad way.

5. H. C. WANG.—*The Stratigraphical Position of the Devonian Fish-bearing Series of Eastern Yunnan.*

During recent years the problem of the age of the Devonian fish-beds in South China has aroused considerable controversy, the beds having been placed first in the Lower Devonian, and later in the Upper Devonian. In 1940 and 1941 the author discovered several sections which show with certainty that the fish-beds are of early Eifelian (Middle Devonian) age.

The Chairman thanked Dr. West for communicating these papers to the meeting.

The following exhibits were shown and commented upon:—

1. M. M. HAQ.—*The original, illustrated Persian Version of the Sanskrit Harivamsha (Haribans).*

Among the Sanskrit works translated for the emperor Akbar was the *Harivamsha*, a work dealing with the life of Krishna. Mullā Sherī, a scholar and poet, undertook the work at the instance of the emperor Akbar. As the Mullā died in 1885, the work must have been completed before that date. Mr. A. C. Ardesbir of Poona

has acquired the original Akbar manuscript of the Persian version. It is a fine specimen of Persian calligraphy and contains beautiful miniatures in the finest Mughal style.

Photographs of the Persian text and the paintings were also exhibited.

2. THE GENERAL SECRETARY.—*Three Manuscripts belonging to the Society's Library.*

(1) *Upādhi-vivaraṇa* (No. I.M. 1539). Country-made paper. Nāgari. Samvat 1483 = A.D. 1425. This is a short and clear dissertation on *Upādhi*—one of the most important topics on Nyāya. *Upādhi* in logic means a special cause for a general effect, an important factor in 'influence' (*Sādhyavyāpakatve sati Sāadhanā-vyāpaka upādhiḥ*). This is perhaps the only important work of the class known to us and a great importance attaches to the date, which comes between Gaṅgeśa, the founder of the *Navya Nyāya*, and his earliest and most famous commentators, Pakṣadhara Śiromaṇi and others. The simple but clear exposition of such works on Nyāya is in sharp contrast to the verbosity and abstruse style of the modern Naiyāyikas of Bengal.

(2) *Al-Hisn al-Matīn fī Ahwāl al-Wazarā' wa's-Salātīn* (No. 1289). A history of the Nawābs of Oudh by 'Abbās Mirzā b. as-Sayyid Aḥmad al-Ḥusainī b. as-Sayyid Muḥammad Kāzim. The author, belonging to family of high officials under the Nawābs of Oudh, deals with the history of the kingdom from its establishment by Sa'adat Khān Burhān al-Mulk (A.H. 1135–1152 = A.D. 1722–1739) to the deposition of Wājid 'Alī Shāh, the last king (A.H. 1264–1273 = A.D. 1847–1856).

The work is divided into 3 *Bābs* and a *Khātima*. The first *Bāb* (ff. 3–178b) deals with the rulers of Oudh and the history of the dynasty; the second *Bāb* (ff. 178b–192a) gives the genealogies of the mothers of the Nawābs; the third *Bāb* (ff. 192a–203b), divided into 10 *faṣls*, gives the accounts of the officials. The *Khātima* (ff. 203b–208b) gives a description of Lucknow, the capital city of the kingdom.

Written in recent Naskh, with headings in rubric, towards the close of the nineteenth century A.D.

(3) *'Ibrat Nāma* (No. 1285 III). A rare historical work dealing with the empire of Delhi from the death of Aurangzib to the fall of the Saiyyids. It was composed by Saiyyid Muḥammad Husaini, surnamed 'Ibrat, in A.H. 1135 = A.D. 1723. It gives a detailed account of the reigns of Bahādur Shāh, Jahāndār Shāh and Farrukhsiyar and concludes with the death of Qutbu'l-Mulk Saiyyid 'Abdu'llah in 1721 A.D.

Written in fine Nasta'liq, with an illuminated '*Unwān*' at the beginning, about the second quarter of the twelfth century A.D. The manuscript of the work is exceedingly rare, only one or two copies being known to exist in England.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all candidates had been duly elected.

The Chairman announced that, unless special notice was given, there would be no Monthly Meetings during the recess months, September and October.



NOVEMBER

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 6th, at 5-30 P.M.

PRESENT

K. P. KHATTAN, Esq., M.A., B.L., Barrister-at-Law, Member of Council, in the Chair.

Members :

Bhatia, Mr. C. L.
Chatterjee, Mr. B. C.
Fox, Sir Cyril S.
Ghani, Mr. O.
Ghose, Mr. R. C.
Griffiths, Dr. W. G.

Haq, Mr. M. M.
Hobbs, Mr. H.
Khaitan, Mrs. J.
Nag, Dr. Kalidas
Roy, Mr. S. K.
Sen, Mr. S. P.

Singhi, Mr. R.

Visitor :

Bhaduri, Mr. J. L.

The minutes of the last meeting were read and confirmed.

The General Secretary had then to leave the meeting on important business whose functions were carried out by Mr. M. M. Haq.

Mr. Haq reported receipt of the following 79 presentations of books, etc., received since the last meeting :—

- (1-2) From Yale University—Transactions of the Astronomical Observatory, Vols. 13 and 14.
- (3-17) From Smithsonian Institution—Bulletins, Nos. 118, 119, 120, 121, 122, 123, 124, 125, 127, 128, 130, 131, 132, 134 and 135.
- (17) From Calcutta University—Penology—Old and New.
- (19) From R.A.S.B.—Tib. Eng. Dictionary.
- (20) From B. S. Guha—Racial Elements in the Population.
- (21) From Bose Research Inst.—Transactions, Vol. XV.
- (22) From Academy of Nat. Sc. of Philadelphia—Proceedings, XCV.
- (23) From Library of Congress—Annual Report, 1943.
- (24) From Federation of Indian Chamber of Commerce—Proceedings of the 17th Annual Meeting, Vol. 3.
- (25-26) From Smithsonian Institution—Bulletin, 184.
- (27-49) From Justice Edgley from the Judges' Library, High Court—Tagore Law Lectures, 1879, 1882, 1884, 1895, 1897, 1898, 1899, 1901, 1904, 1909, 1913; Naradiya Dharmastra; Digest of Muhammadan Law; Law relating to Pardanashins in British India; Hindu Law of Succession, Vol. 1; Law of Lunacy in British India; Lyon's Medical Jurist; Prudence for India; A Treatise on Hindu Law; the Law of Torts; Estates Partition Act; Principles of Liability for Interference with Trade; Hindu Law of Marriage and Stridhana.
- (50) From Madras Records Office—Manilha Consultations, 1764.
- (51-54) From Bernice P. Bishop Museum—Bulletins, 174, 177, 178, 180.
- (55) From M/S Vijaya Krishna Bros.—Racial History of India.
- (56) From the University of Michigan—Systematic Review of Neotomys.
- (57-58) From the University of Michigan—San Francisco Bay as a factor influencing specialization in Rodents; Fresh water Triclad of Michigan.
- (59-61) From Smithsonian Institution—Bulletin Nos. 138 and 141 and Peoples of India.
- (62) From U.S. Govt. Printing Office—Annual Report, 1942, Vol. 2.
- (63) From University of Madras—Sawanihat-i-mumtaz of Mohd. Karim.
- (64) From P. C. Gupta—The Last Peshwa and the English Commissioners, 1818-1851.
- (65-66) From Bernice P. Bishop Museum—Bulletin Nos. 179-182.
- (67) From V. Elwin—Folk Tales of Mahakoshal.
- (68) From V. Elwin—Folk Songs of the Maikal Hills.
- (69-70) From Govt. of India—Indian Historical Records Commission; Proceedings of Meetings, Vols. 19 and 20.
- (71) From B. C. Law—Jaina-Guru-Mahavir.
- (72) From Govt. of Madras—Des. Cat. of Sans. MSS., Govt. Orient. MSS. Lib., Vol. 29; do. Tri. Suppl.
- (73) From Govt. of Madras—Triennial Cat. of MSS., 1934-37, Govt. Orient. MSS. Lib., Madras.
- (74-75) From Nagari Pracharini Sabha—Twelfth Report on the Search of Hindi MSS., Vols. 1 and 2.
- (76) From R.A.S.B.—Tirtha Kalpa in 2 fascos.
- (77-78) From Bikaner Govt.—Anupa-simha-gunavata; Gita Manjari.
- (79) From Bhandarkar Oriental Research Institute—Jainratnakosa, Vol. I.

The General Secretary reported that the following candidates had been elected Ordinary Members, during the recess months, under Rule 7:—

(76) *Singhi, Ramchandra*, B.A., A.C.A. (Lond.), R.A., Chartered Accountant, 1-B Old Post Office Street, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: B. M. Agrawal.

(77) *Bose, Manindra Lal*, M.A., B.L., Barrister-at-Law. 9 Congress Exhibition Road, Park Circus, Calcutta.

Proposer: J. N. Majumdar. *Seconder*: K. Nag.

(78) *Marwood, Sidney Lionel*, C.I.E., I.C.S., Adviser to H.E. the Governor of Orissa, Cuttack, Orissa.

Proposer: N. G. A. Edgley. *Seconder*: S. P. Mookerjee.

(79) *Vishwanath, Shastri* (Punjab University), Byakaranthirth, Office Superintendent of the All-India Hindu (Arya) Dharma Seva Sangha, 102 Mukhtaram Babu Street, Calcutta.

Proposer: K. Nag. *Seconder*: N. G. A. Edgley.

(80) *Sastry, J. S. Venkatachala*, Landlord, State Pundit of the Native States of Mysore, Cooch Behar and others. o/o H.H. The Maharani Saheba of Cooch Behar, Kamal Mahal, Carmichael Road, Bombay.

Proposer: K. Biswas. *Seconder*: K. Nag.

(81) *Misra, Ram Kripal*, Sushil, B.A., Sahityaratna, Headmaster, Hindi M.E. School, Sambalpur, B.N.R.

Proposer: N. G. A. Edgley. *Seconder*: K. Nag.

(82) *Cookson, Maurice Bruce*, Flight Lieutenant, Photographer, R.A.F., India.

Proposer: G. T. Dewsbury. *Seconder*: K. Nag.

(83) *Sarma, Venkataraya*, Dharmarajan, Pundit, Ph.D., Landholder, Narayanasram Badharikavanam, Karavadi P.O., Ongole Tq., Guntur Dist., Madras Presidency.

Proposer: N. G. A. Edgley. *Seconder*: K. Nag.

(84) *Birla, Lakshmi Nivas*, Merchant, Birla Park, Ballygunge, Calcutta.

Proposer: K. P. Khaitan. *Seconder*: K. Nag.

(85) *Clark, W. M.*, M.B.E., B.Sc., Bengal Agricultural Department, U.S. Club, Calcutta.

Proposer: W. D. West. *Seconder*: N. G. A. Edgley.

(86) *Khaitan, Mrs. K. P.*, 6 South End Park, P.O. Rashbehari Avenue, Calcutta.

Proposer: S. P. Mookerjee. *Seconder*: N. G. A. Edgley.

(87) *Chopra, Kishori Lal*, Head of the Persian and Urdu Departments, S.D. High School, J.U.C., Basti Shaikh Darvesh, Jullundur.

Proposer: A. B. M. Habibullah. *Seconder*: O. C. Gangoly.

(88) *McCabe, Joseph*, Psychological Warfare Division, S.E.A.C., 6 Hungerford Street, Calcutta.

Proposer: E. Band. *Seconder*: N. G. A. Edgley.

(89) *Leggett, Trevor Pryce*, Psychological Warfare Division, S.E.A.C., 6 Hungerford Street, Calcutta.

Proposer: E. Band. *Seconder*: N. G. A. Edgley.

(90) *Nath, R. M.*, B.E., Executive Engineer, P.W.D. (Govt. Service), P.O. Jorhat, Assam.

Proposer: K. Nag. *Seconder*: N. G. A. Edgley.

(91) *Choudhuri, Jatindra Mohan*, B.A. (Cal.), B.T. (Dacca), Shastraratna, Headmaster, Haripur H.E. School, P.O. Jibanpur, Dinajpur.

Proposer: N. G. A. Edgley. *Seconder*: K. Nag.

(92) *Batia, Seth Chandmull*, 7 Canning Street, Calcutta.

Proposer: K. Nag. *Seconder*: N. G. A. Edgley.

(93) *Chunder, Pratap Chandra*, M.A., B.L., Research Student in Indian History, 23 Wellington Street, Calcutta.

Proposer: K. N. Bagchi. *Seconder*: B. S. Guha.

(94) *Prasad, Rev. Ayodhya*, Pundit, B.A., Minister of the Calcutta Arya Samaj, 85 Bow Bazar Street, Calcutta.

Proposer: K. L. Poddar. *Seconder*: Sir Cyril Fox.

(95) *Bernhardt, Eric*, Engineer, Representative, Brown Boveir & Co., c/o Messrs. Volkart Bros., Calcutta.

Proposer: J. H. Hendrie. *Seconder*: N. G. A. Edgley.

(96) *Chatterjee, Hari Gopal*, M.A., H.M.D., Assistant, P.G. Department, Calcutta University, Machubazar Ghat, Chinsura, Hooghly.

Proposer: S. N. Mitra. *Seconder*: A. C. Bose. *

(97) *Bhattacharya, Kamakhy Charan*, Jyotirbhusan, 16 Anath Deb Lane, P.O. Beadon Street, Calcutta.

Proposer: K. Nag. *Seconder*: S. C. Law.

The General Secretary reported that an application for Institutional Membership had been received from the Calcutta University Library, which had been accepted by the Council.

The General Secretary reported receipt of a donation to the Society from Mrs. Sarat Chandra Roy of Rs.4,000 for the institution of a gold medal to be named after her deceased husband, Rai Bahadur Sarat Chandra Roy, and another donation of Rs.250 for meeting the cost of the first medal to be awarded at the Annual Meeting in February 1945. These gifts had been accepted by the Council who had conveyed thanks to the donor.

In accordance with Rule 48(a), the General Secretary reported that the Council had adopted a set of regulations regarding the award of the 'Sarat Chandra Roy Memorial Medal' as follows:—

(1) The Gold Medal shall be awarded every year at the Ordinary Meeting of the Royal Asiatic Society of Bengal, in February.

(2) The Medal shall be bestowed on the person who, in the judgment of the Council, is considered to have written the most outstanding book or monograph on any aspect of the Cultural Anthropology of India in the English language, failing that, in Bengali.

(3) The Council shall at a meeting in September appoint an Advisory Board, consisting of not less than four and not more than six members.

(4) The Advisory Board shall be termed the 'Sarat Chandra Roy Memorial Medal Advisory Board' and shall include: (i) The Anthropological Secretary, and (ii) A nominee from among the heirs of the late Rai Bahadur S. C. Roy, viz.: (a) one selected by Mrs. Sarat Chandra Roy as long as she is alive, and (b) after her death one member is to be nominated by the heirs of the late Rai Bahadur Sarat Chandra Roy. The Board shall appoint a Chairman from amongst its members who shall have a casting vote (in addition to his own vote) in the event of the number of votes being equally divided. The Secretary shall give the persons concerned sufficient notice in order to allow them time to select their nominee.

(5) In awarding the Medal at least 75% of the members of the Board must agree on the scholar to be selected. In the event that 75% of them do not agree, or that a deserving scholar is not available, then the Medal shall not be awarded that particular year and the interest on the fund shall be added to the principal.

(6) The General Secretary shall supply in advance to all members of the Board statements of the work or attainments of all available scholars and request them to send statements of the work or attainments of any other scholar, not included in the list, as they may wish to propose.

(7) The General Secretary shall then call a meeting of the Advisory Board in the first week of December every year and shall place before the Board for consideration detailed statements of the work and attainments of all scholars. The General Secretary shall also place before the Board for consideration detailed statements of the work or attainments of any other scholar submitted by any Fellow of the Society. The Board after due consideration shall make the selection of a name to be submitted to the Council at its December meeting. The Council may for specified reasons request the Board to re-consider its decision, but shall not be competent to substitute another name for the one already recommended by the Board.

(8) The name of the medallist shall be printed in the Society's Year-Book.

The General Secretary reported that the Council had appointed Advisory Boards, in accordance with the Regulations, for the following Medals to be awarded at the next Annual Meeting in February 1945, as follows:—

1. *Dr. B. C. Law Gold Medal*—

The Donor (Dr. B. C. Law) and the Philological Secretary—*ex-officio*; Dr. S. P. Mookerjee; Dr. R. C. Majumdar; The Hon'ble Mr. Justice N. G. A. Edgley.

2. *Sarat Chandra Roy Memorial Medal*—

The Anthropological Secretary and a nominee of Mrs. S. C. Roy—*ex-officio*; Prof. K. P. Chattopadhyay; Mr. L. R. Fawcett; Mr. J. P. Mills; Dr. K. Nag.

3. *Joy Gobind Law Memorial Medal*—

The Biological Secretary—*ex-officio*; Dr. S. C. Law; Dr. S. L. Hora; Dr. S. P. Agharkar; Dr. H. K. Mookerjee.

4. *Paul Johannes Brühl Memorial Medal*—

All the *ex-officio* members, viz.: The President, R.A.S.B.; Ghose Professor of Botany, Calcutta University; Director, Botanical Survey of India; President, Botany Section, Indian Science Congress Association; and the Natural History Secretary (Biology), R.A.S.B.

In accordance with Rule 48(d), the General Secretary submitted for confirmation to the meeting the following appointment made on the staff of the Society, since the last Ordinary Meeting.

Mr. Sibsankar Mitra, M.A., who was appointed as a cataloguer for one year with effect from 1-9-43 on Rs.100 p.m. had been reappointed on the same terms for a further period of three years for cataloguing work in the library.

Order: Confirm.

The General Secretary reported that the Council since the last monthly meeting, had nominated Dr. R. C. Majumdar to represent the Society at the Seventh Session of the Indian History Congress which would be held in Madras in December 1944.

The Chairman announced the death of the following members:—

- (8) Dr. W. A. K. Christie (Life Member, 1907, Ordinary Fellow, 1919).
- (9) Lt.-Col. Owen Berkeley Hill (An Ordinary Member, 1936).
- (10) Mr. Seth Drucquer (An Ordinary Member, 1944).
- (11) Dr. E. L. G. Clegg (An Ordinary Member, 1944).

The Chairman called upon the following to read obituary notices:—

- (1) Sir Cyril Fox of the late Dr. W. A. K. Christie.
- (2) Dr. G. S. Bose of the late Col. Berkeley Hill (read by Mr. R. C. Ghose).
- (3) Dr. W. D. West of the late Dr. E. L. G. Clegg (read by Mr. Bankim Ch. Chatterjee).

The Chairman moved a vote of condolence on the demise of these distinguished members, all present standing.

The following papers were read:—

1. M. CHAKRABARTY and A. B. KAR.—*Studies on Haemosporidia from Indian Birds, Series I.* (Mr. J. L. Bhaduri read the paper.)

Little work has been done in India on blood parasites of the genus *Haemoproteus*. Some species of this genus from Portuguese India, Bihar and the United Provinces have been described, but only one species is known in Bengal. The authors have examined the blood of twenty different species of birds for the parasites and have found three of them infected with *Haemoproteus*, whose descriptions have been given in the paper.

2. S. M. DAS.—*On a Collection of Monascidians from Madras.* (Mr. J. L. Bhaduri read the paper.)

The paper deals with a collection of Monascidians that was received in a preserved condition from Madras. The specimens were collected from the Madras coastal region. The paper contains a description of six species of Monascidians of which one is a first record from Indian waters.

3. G. E. GATES.—*On some Indian Earthworms.* (Mr. J. L. Bhaduri read the paper:)

This paper contains descriptions of a number of Moniligastrid and Megaseolecid species, mostly new, collected at various localities from Tinnevely district in the far south to the Naga Hills of Assam in the north-east. A need for revision of earlier species in order to correct mistakes in previous accounts, and to provide information as to various additional characteristics now known to be, or of being, of suspected taxonomic importance, has been pointed out by the author.

4. A. CASPANI.—*The Cave of the Shadow of the Buddha at Nagarhara.* (Mr. Sukumar Ray read the paper.)

Amongst the Chinese pilgrims who visited the Buddhist shrines in India, Fa-Hien, Sung-yun, Hwei-Sung and Hsien Tsiang, all saw near Nagarhara a cave where the shadow of the Buddha was known to appear. The locality of this cave has been identified by the author.

The following three Manuscripts belonging to the Society's Library were shown and commented upon :—

(1) *Ūhaḡāna* (No. I.M. 9852). Country-made paper. Nāgari. Samvat 1377 = 1319 A.D. The *Samhitā* of the Sāmaveda, which is an anthology taken from the *Rk-Samhitā* comprising those of its verses intended to be chanted at the ceremonies of the Soma Sacrifice, contains in addition four *gānas*, or song-books. For purposes of chanting the *Rks* are altered and modified by the prolongation and repetition of syllables, by the insertion of syllables, etc., and thus the *Rks* are transformed into *Sāmagāna*. *Ūhaḡāna* in twenty-three *prapaṭhakas* is the third of these song-books, and the present manuscript, copied in 1319 A.D., appears to be the oldest dated manuscript of the work, now extant.

(2) *Qalā'id al-Iqyān wa Mahāsin al-A'yān* (No. 1343). Biographical notices of elegant writers and poets of Spain with quotations from their compilations by Abū Naṣr al-Faṭḥ b. Muḥammad al-Qaṣī al-Ishbīlī. The author who was born at Sakhrat al-Walad in the province of Granada was a great traveller. He was put to death in Morocco in 535 A.H./1140 A.D.

Written in beautiful Naskh at Ispahān in 574 A.H./1178-79 A.D. The manuscript thus belongs to a date very near to that of the original composition.

(3) *Diwān-i-'Ishratī* (No. 1286 III). A poetical work by Saiyyad Muḥammad al-Husainī 'Ishratī, who was born and educated at Baṣra. He came later to India and was appointed to a high rank of honour in the court of Sultān Sikandar 'Adīl Shāh of Bijāpūr whence he was brought to the court of Aurangzib. Though other poems by the poet are known, no copy of this Persian *Diwān* has been mentioned in any book or catalogue, or by any scholar who has written on him.

Written in calligraphic-Nastaliq with two illuminated 'unwāns in 1298 A.H./1880 A.D. from the autograph copy of the poet. This manuscript appears to be a unique copy and has been recently purchased for the Society's Library.

The Chairman thanked Mr. Bhaduri and Mr. Sukumar Ray for communicating the papers and Mr. Haq for explaining the contents, rarity, etc., of the two manuscripts.

An Ordinary Monthly Meeting of the Royal Asiatic Society of Bengal was held on Monday, the 4th, at 5-30 P.M.

THE HON'BLE MR. JUSTICE N. G. A. EDGLEY, M.A., I.C.S., J.P., BARRISTER-AT-LAW, VICE-PRESIDENT, IN THE CHAIR.

Habibullah, Dr. A. B. M.
Haq, Mr. M. M.
Nag, Dr. Kalidas
Rahman, Mr. S. K.
Sen Gupta, Mr. P. C.
West, Dr. W. D.

[illegible]

The minutes of the last meeting were read and confirmed.

The General Secretary reported receipt of the following 23 presentations of books, etc., received in November:—

- (1) From D. N. Majumdar—Fortunes of Primitive Tribes.
- (2) From R.A.S.B.—Grammar of the Tibetan Language.
- (3) From Govt. of U.P.—Report on the Administration, 1943.
- (4) From Govt. of Travancore—Administration Report of the Archaeological Dept., for the years 1114-1115 M.E.
- (5) From Govt. of Travancore—Administration Report of the Srichitralayam, for the years 1111-1117 M.E.
- (6) From Indrajit Singh—Gondwana and the Gonds.
- (7-8) From Numismatic Soc. of India—Journal, Vols. 1 and 2.
- (9-14) From Numismatic Soc. of India—Journal, Vols. 1-5.
- (15) From Smithsonian Institution—China.
- (16-17) From Mysore Arch. Survey—Epigraphia Carnatica, Vols. 14 and 15.
- (18-23) From Travancore Govt.—Kuvalayavali; Raghaviya; Rk. Samhita, Part 3; Vakypadiva; Aitereva Brahmana, Vol. 1; and Mimansa Slokavartika, Part 3.

The following candidates were balloted for election as Ordinary Members:—

- (98) *Hopkins, W. C. G.*, Capt., R.E., L.I.O.B., A.I.Q.S., A.F.S. (Eng.), A.M.Inst.B.E., Quantity Surveyor, 34 Park Street, Calcutta.

Proposer: N. G. A. Edgley. Seconder: Sir Cyril Fox.

- (99) *Kaiser, K. M.*, B.A. (Dacca), I.P., Assistant Superintendent of Police, P.O. Contai, Dt. Midnapur.

Proposer: N. G. A. Edgley. Seconded: Sir Cyril Fox.

- (100) *Chakraborty, Subimal Chandra*, B.A. (U.T.), 102/1 Bakul Bagan Road, Bhawanipur, Calcutta.

Proposer: N. G. A. Edgley. Seconder: Sir Cyril Fox.

- (101) *Dutt, Raghu Nath*, Businessman, 33/2, Beadon Street, Calcutta.

Proposer: K. Nag. Seconder: N. G. A. Edgley.

- (102) *Maiden, Geoffrey*, Capt., Fifth Royal Gurkha Rifles (F.F.), c/o The Public Relations Film Unit, India Command, Calcutta.

Proposer: N. G. A. Edgley. Seconder: Sir Cyril Fox.

- (103) *Patel, Yusuf R.*, Manager, New India Assurance Co., Ltd., 9 Clive Street, Calcutta.

Proposer: K. Nag. Seconder: N. G. A. Edgley.

- (104) *Ghosh, Deva Prasad*, M.A., Curator, Asutosh Museum of India Art and Lecturer, Calcutta University; 12 Anthony Bagan Lane, P.O. Amherst Street, Calcutta.

Proposer: R. C. Majumdar. Seconded: K. Nag.

(105) *Saraswati, Sarasi Kumar*, M.A., Librarian, Royal Asiatic Society of Bengal and Lecturer, Calcutta University; 6/1 Mahendra Road, Calcutta.

Proposer: R. C. Majumdar. *Seconder*: K. Nag.

(106) *Gifford, Frederick Richard*, O.B.E., Lt.-Col., I.A., Adviser in Languages and Secretary, Board of Examiners, General Staff Branch, G.H.Q. (India), Simla.

Proposer: N. G. A. Edgley. *Seconder*: Sir Cyril Fox.

The General Secretary reported the following loss of membership, since the last meeting, by resignation:—

(5) H. C. Chakladar (An Ordinary Member, 1920).

The General Secretary reported that an intimation had been received from the Government of India, Department of Education, Health and Lands, that the Society had been selected to be a member of the newly constituted Advisory Board of Archaeology in India, and the Council had nominated the Hon'ble Mr. Justice N. G. A. Edgley to represent the Society to serve on the Board.

The General Secretary reported that an invitation had been received from the Patna University to send a representative of the Society to attend the Silver Jubilee Convocation to be held on 30-11-44. The Council had nominated the President, Dr. S. P. Mookerjee, to represent the Society at the convocation.

The General Secretary reported that the Society had received a grant of Rs.500 for publication of scientific papers from the National Institute of Sciences of India out of the Rockefeller Foundation grant entrusted with them for distribution. The Council accepted this grant with thanks, and it would be utilized for publication work only in terms of the conditions governing the grant.

The following papers were read:—

1. R. C. MAJUMDAR.—*Two Copper-plates of Śaśāṅka from Midnapore.*

The article gives an account of two copper-plates of Śaśāṅka which were discovered in Midnapore. Plate I records that while Śaśāṅka was ruling the earth his feudatory Somadatta was governing Daṇḍabhukti and Utkaladeśa. Plate II, similarly, refers to one Subhakirtti governing Daṇḍabhukti under Śaśāṅka. The plates are dated respectively in the years 19 and 8. These plates definitely prove that Śaśāṅka was ruling over Midnapore and Orissa. Somadatta, the governor of Śaśāṅka is probably identical with Somadatta known from the Soro plates, and thus the combined evidence of the four Soro plates and the present two plates supplies valuable historical information. The plates contain the earliest epigraphic reference to Daṇḍabhukti and not only enable us to identify it with certainty but push back to antiquity by four centuries.

2. LESLIE W. A. AHRENDT.—*Some new and little known Berberia from India.*

In this paper the author has identified and given a description and habitat of fourteen specimens of *Berberia* belonging to India.

3. K. KARUNAKARAN NAIR.—*Descriptions of some new and little known Midge Galls.*

The midge galls described in this paper were collected by the author mostly from the Pampadampara hills of the High Range of Travancore during the period of the north-east monsoon in 1943. Some were also collected from other localities in the Travancore State. The specimens of the galls described can be seen in the Entomological Laboratory, Central Research Institute, Trivandrum.

4. M. KAZI.—*A short account of Nawab Sultanyar.*

An attempt has been made in this paper to compile an account of the life of Nawab Sultanyar who was a mansabdar (officer over 250 horses) under Shah Jahan

(A.H. 1038) and was murdered in the early part of the reign of Aurangzeb (A.H. 1071). For the compilation the author has made use of the original *firman* issued by the emperor Mohammed Shah, which contains the rights and privileges to be enjoyed perpetually in the land (Havely Parganas of Broach) by the descendants of Sultanyar.

5. A. B. M. HABIBULLAH.—*Arakan in the pre-Mughal history of Bengal.*

The first Arakanese raid in Satgaon in Bengal took place in 1601. After that, during the period 1606–1613, the Arakanese invaded Bhuluah and an expedition had to be sent against them. The nature of their persistent attacks disclosed a determined hostility to the Mughals. The author has thrown a flood of light on this obscure chapter of the pre-Mughal history of Bengal.

6. W. G. GRIFFITHS.—*The Kols of Central India.*

This monograph is a study of a primitive tribe in contact with Hinduism. The Kols belong to the Proto-Australoid group of primitive people and have their main centre of distribution in Rewa State, Central India Agency. The Census of 1931 reported 368,653 members of this tribe distributed in the Central Provinces, the Central India Agency and the United Provinces. This treatise aims to give a comprehensive study of a primitive group. Previous notices concerning the Kol tribe are scanty and in many cases not well-informed. The present work is considered by the author as an introduction to the Kol people and it is hoped that further and more complete studies may be forthcoming.

The origin of the tribe, in the light of available historical data, from Hindu Scriptures, and according to their own beliefs and traditions, is set forth. Their material culture is described in some detail and a picture given of life as they live it in Central India. It was discovered, that, like most primitive tribes, they have a complicated social structure with *kuris* or septs which are endogamous. Hypergamy is practised. At least 19 *kuris* are tabulated. Kol social customs from birth to death are set forth and many of their practices and beliefs recorded in some detail.

Their religious life receives considerable attention and it is seen that their religion, while using certain concepts and names common to Hinduism is nevertheless a propitiation of village deities. The influences of Hinduism are noted. The chapter on Magic and Witchcraft deals with their ideas concerning the spirit world, the evil eye, protective devices and the like.

A chapter is devoted to selected Folklore and Fables and another to Music, Songs, Dance and Art. Samples of Kol poetry are given and translations offered. The study closes with a survey of their economic life and a description of the Kol tribe in transition. Some recommendations are made concerning the future. There are six appendices bearing on matters outlined in the main part of the text. The volume is illustrated by photographs taken by the author and there are diagrams to make clear some of the matters described.

The monograph represents a contribution to the study of primitive life in India and as such will be welcomed by those interested in the life and problems of aboriginal peoples.

7. P. C. SEN-GUPTA.—*Astronomical Time-Indications in Kālidāsa.*

The author has written his thesis on purely astronomical grounds. He has obtained three dates from the time-references in Kālidāsa's works:—

- (i) The date, 546 A.D., from an indication of the position of the summer solstitial colure in the *Raghuvamśa*.
- (ii) The date 541 A.D. from the *Meghadūta* reference, viz. a combination of:
 - (a) The last day of solar Āṣāḍha, (b) the true summer solstice day,
 - (c) the day of the 11th *tithi* of lunar Āṣāḍha falling on June 20, 541 A.D.; a date for raising which even by 57 years no good grounds can yet be made out.

- (iii) A peculiar total lunar eclipse on November 8-9, 542 A.D., at the end of which the moon got conjoined with the star *Rohiṇi* (*Aldebaran*) as referred to in the poet's drama *Śakuntalā*.

These three dates all converge to about 550 A.D., which in his study has become the date of the great poet.

The author is sceptical about the tradition that Kālidāsa was one of the gems of the court of King Vikramāditya, as it can be found perhaps earliest in the work the *Jyotirvidābharaṇa* by Kālidāsa the astrologer whose date was undoubtedly about 1243 A.D.

By examining chronologically the Mandasor inscription of Kumāragupta and Vandhuvarma, dated 529 of Mālava era, the author is convinced that the old name of the now known Vikrama era was Mālava era. He has also come across the term 'Mālavābda' in R.A.S. Bengal manuscript of the *Vṛddha Garga-Saṁhitā*. Hence this name of Vikrama era was given to the old Mālava era, later than the date of the inscription referred to above, viz. February 15, 473 A.D. He concludes that there is no reason to support the hypothesis that Kālidāsa flourished about the first century B.C.

At the conclusion of the reading of the papers the General Secretary offered, on behalf of the Society, a cordial welcome to the Ven'ble Dr. P. Vajiranana Thera, Ph.D., President, Mahabodhi Society of Ceylon, who came on deputation from the Ceylon ministry and was present at the meeting.

Dr. Vajiranana gave a suitable reply thanking the General Secretary.

The Chairman announced the result of the ballot for the election of Ordinary Members and declared that all the candidates had been duly elected.

OBITUARY NOTICES

SIR DAVID PRAIN (1857-1944).

Sir David Prain was born on 11th July, 1857. His father David Prain and his mother Mury Thomson of Aberdeen Shire had profound influence in the earlier development of his mind and formation of his exemplary character. He was educated in his boyhood in the Parish School under Dr. A. C. Cameron who took keen interest in David Prain and was mainly responsible for building up his educational career. Prain took his M.A. degree in 1878, and in 1883 qualified at Edinburgh as L.R.C.S. and L.M. and at Aberdeen as M.B. and C.M. with the highest honours and subsequently appointed as Senior Demonstrator in Anatomy by the University Court at Aberdeen.

He came to India in 1885 at the age of 28 when Prain's services were lent by the Military Department at the request of the Brigade Surgeon (afterwards Sir) George King to enable Sir David to act as Curator of the Herbarium and the Library of the Royal Botanic Garden, Calcutta during the temporary absence on leave of Lewis J. K. Brace. On Brace's return Prain, reverted to Military duty, was placed in charge of the Gurkha regiment at Kohima Naga Hills. Here he studied the Angami Nagas and the flora of the Naga Hills. Brace was invalidated and Prain took over charge of the post of the Curator of the Herbarium and the Library again on the 24th January, 1887. It is from this year that he commenced his scientific activities in India and was associated with the activities of the then Asiatic Society of Bengal by contributing many articles in the journals and proceedings of the Society. His first paper entitled 'Hot Springs of the Namba Forest, Sibsagar, Upper Assam' was published in the journal of the Asiatic Society of Bengal in 1887 and another paper on 'Some additional species of *Pedicularis*' came out in the Society's journal in 1889 under the Series *Novae Indicae* Series I. On the 6th March, 1889, he was elected an ordinary member of the Society. He officiated as Superintendent of the Royal Botanic Garden, Calcutta, during the absence on leave of Sir George King, M.D., K.C.I.E., F.R.S., in 1887. He again officiated as Superintendent, Royal Botanic Garden, Calcutta, in 1888 and became Surgeon in October 1889.

During 1889-91 he undertook hazardous botanical expeditions in some of the botanically unknown islands of the Indian Ocean and during his voyage he visited Port Blair in the Andaman Islands, Diamond Island, the Great Cocos and Table Islands in the Bay of Bengal. He voyaged also in H.M.S. *Investigator* and made botanical exploration in the Great Cocos Island, Little Cocos, the Rutland Islands, Narcondam, Barren Island, Little Andaman, Car Nicobar, Batti-malo and other coral islands. In November 1891 he explored the Pareshnath Hills in Chota Nagpur and in the Spring of 1892 he studied the flora of the Khasia and Jaintia Hills in connection with his botanical survey of Assam and Burma.

He acted again as Superintendent of the Royal Botanic Garden, Calcutta, from 15th of July to October, 1892, and again for a period of 7 months from 1892 to 1893. At this time for a period of 3 months in 1893-94 he was engaged in an enquiry on the cultivation and use of Ganja—*Cannabis sativa*. On the 1st of July in 1895 Sir David Prain was appointed as Professor of Botany in the Medical College, Calcutta, in the place of Sir George King and rose to the rank of Surgeon-Major in 1896 and was the foundation lecturer in 1895-96 of the Agricultural Class which was opened at the Bengal Engineering College in 1895. He succeeded Sir George King as the permanent Superintendent of the Royal Botanic Garden, Calcutta, who after rendering 26 years of devoted and meritorious service retired in 1897. Soon after his appointment as Superintendent of the Royal Botanic Garden, Calcutta, in which post he was confirmed on the 1st March, 1898, he undertook investigation on the cultivation of mustard and wheat and was lucky to discover the host of the

wheat rust. He continued his researches on economic plants as well and carried on investigation on the pulses and other leguminous crops by experimental cultivation in the economic section of the Royal Botanic Garden, at Sibpur.

In 1898 he assumed charges also of the posts of the Director, Botanical Survey of India and the Superintendent, Cinchona Cultivation, Bengal. He was also appointed a Trustee of the Indian Museum and a Fellow of the Calcutta University. He was awarded the degree of LL.D. of the Aberdeen University in 1900. He was a member of the Council of the Asiatic Society of Bengal in 1897 and Vice-President with the late Sir Asutosh Mookerjee and Sir Thomas Holland in 1904.

He served in the Lhasa Mission and thus got an opportunity of studying the vegetation of the Tibetan frontier during September to October 1903, and brought back a large collection of valuable specimens. On his return he paid special attention to the improvement of the Royal Botanic Garden, Calcutta, Lloyd Botanic Garden, Darjeeling and the Calcutta Gardens under his charge. Much of the present expansion and improvement of the cultivation of the Cinchona plants at Mungpoo is due to Sir David's care and attention to this section of his work.

After the expiry of his leave on the 15th December, 1905, he was appointed as Director of the Royal Botanic Garden, Kew, in place of Sir William Thiselton Dyer. He served as the President of the botanical section of the British Association which met at Winnipeg, as President of the Linnean Society from 1916 to 1919 and as Vice-President and Treasurer of the Royal Society of London from 1919 to 1929. He was elected an Honorary Foundation Fellow of R.A.S. in 1920. He was active member of numerous Boards and Committees of biological associations and many other scientific bodies where his well-balanced judgment and matured experience made him welcome.

He was appointed a trustee of the British Museum in 1925; a corresponding member of the Botanical Society of America in 1934 and 1936 and President for life of the Imperial College of Tropical Agriculture in 1938. Sir David became the Chairman of the Plant and Animal Products Council of the Imperial Institute, London, in 1936. He sat on the International Committee of Plant Nomenclature that met in 1930 and 1935 at Cambridge and Amsterdam respectively.

He was elected Fellow of the Royal Society of London in 1905. He was recipient of C.I.E. in 1906. He received the degree of LL.D. of St. Andrew's University in 1911; C.M.G. was conferred upon him on the 1st January, 1912, and he was knighted on the 14th July, 1912. He was awarded Barclay Memorial Medal in 1902, the Albert Medal of the Royal Society of Arts for 1925 for the application of Botany to the development of the raw materials of the Empire; the Linnean Gold Medal in 1936 and the Paul Johannes Brühl Memorial Medal in 1938 and the Barclay Medal again in 1941.

There are about 105 contributions to Indian Botany by Sir David and his last monumental work is on *Dioscoreas* in collaboration with Mr. I. H. Burkill, M.A., F.L.S., formerly an officer of the Botanical Survey of India. This work entitled 'An account of the Genus *Dioscorea* in the East' has just been published in the Annals of the Royal Botanic Garden, Calcutta, Parts I and II, Volume XIV. His last wish was the preparation of a complete flora of Bengal on the materials of his Bengal Plants. This work has been undertaken by the writer on the lines suggested by the late Sir David.

The loss of Sir David is an irreplaceable loss to the botanical science and particularly to Indian Botany and to the Royal Botanic Garden, Calcutta, and the Botanical Survey of India, Calcutta, with which he was intimately associated till the last day of his life.

K. BISWAS.

Read on 3-4-1944.

SIR DON BARON JAYATILAKA (1868-1944).

Sir D. B. Jayatilaka was not only the outstanding statesman of modern Ceylon, but was also a great leader of the cultural Renaissance of the historic island. He was a graduate of our University of Calcutta and was a devoted friend and colla-

borator of Rev. Dhammapāla, who made Calcutta the headquarters of the Mahabodhi Society founded in 1891. Jayatilaka was Principal of Dhamma Raja College, Kandy (1892-98) and Principal of Ananda College, Colombo (1900-1910). Then he went to England, took his L.A. degree at Oxford in 1913 and qualified himself as a Barrister-at-Law (Lincoln's Inn). He was a member of the Ceylon Legislative Council in 1924-31; member of the State Council since 1931 and rose to be the Minister of Home Affairs and the first Ceylon Government Representative in India. As a scholar, he made a contribution to the study of Pali Buddhism. He edited a number of old Sinhalese works and was the chief editor of the Sinhalese Etymological Dictionary. Our Society had the pleasure of electing him a Special Anniversary Honorary Member on 7-2-44. He participated in our 160th Jubilee and made a fervent appeal for a resumption of the work of Pali Text Society and for a closer collaboration between Indian and Sinhalese scholars. His death will be mourned as much by his countrymen, as by a large number of his Indian friends.

K. NAG.

Read at the Ordinary Monthly Meeting on 5th June, 1944.

BAHADUR SINGH SINGHI (1885-1944).

The news of the death in Calcutta on the 7th July, 1944, of Mr. Bahadur Singh Singhi, a prominent Zaminder and a well-known businessman, must have been learnt with deep regret by all members of the Royal Asiatic Society of Bengal. He had been a member of this Society since 1912.

Mr. Singhi was born in the year 1885 in the illustrious Singhi family of Azimgunj (Murshidabad). The Singhi family occupies almost the foremost rank among the Jains who migrated to Bengal from Rajputana in the latter part of the seventeenth century.

Although he had been denied a long academic career, his knowledge, erudition and intellectual endowments were of a very high order. He had excellent command over several languages such as Hindi, English, Guzrati, Bengali, and Persian. He was a man of extremely simple and unostentatious habits. He was a prominent leader of the Jain Community of India and was elected the President of the All-India Swetamber Conference held in Bombay in 1926.

He was a Fellow of the Royal Society of Arts, London, and member of several cultural institutions. He was a prominent member of the Executive Committee of the All-India Arts and Crafts Exhibition held in Calcutta in 1935. He was also connected with many Jain conferences and institutions, either as President, Patron or Trustee.

He always took an active part in scholarly pursuits and was a generous patron of scholars and literary men.

He contributed over a lac of rupees to Jain Pustak Prachar Mondol, Agra, Jain Gurukul Palitana, Jain Vidyabhavana, Udaipur, Jain Bhawan, Calcutta, Jain Dharam Prachar Sabha, Manbhum, Bharati Vidya Bhawan, Bombay, London Mission Hospital and High School, Ziagunj, Benares Hindu University, Marwari Hospital, Calcutta, Hindi Sahitya Parishat (Allahabad), Hindu Academy, Daulatpur (Khulna), Chittaranjan Sevasadan and several maternity clinics.

He established a chair of Jain Studies in the Viswa-Bharati, Santiniketan, and in 1931 he founded the Singhi Jain Series of publications which had cost him more than Rs.50,000. The eighteen important volumes so far published will remain as a standing monument in the field of Jain literature and Indian Philosophy.

He was a great connoisseur and patron of art and culture and had an unbounded interest in creative researches and antiquities and had a very good collection of rare and historic paintings, manuscripts, books and jewellery.

His collection of rare Indian Stamps secured him second prize in the International Philatelic Exhibition held in New York in 1932.

CHOTELAL JAIN.

Read at the Monthly Meeting on 7-8-1944.

OWEN ALFRED ROLLAND BERKELEY-HILL (1879-1944).

Owen Alfred Rolland Berkeley-Hill, M.A., D.M., B.Ch. (Oxon), L.R.C.P., D.T.M. & H. (Lond.), M.R.C.S. (Eng.), Retired Lieut.-Col., I.M.S., was born in London on December 22, 1879. He passed away at Ranchi on 16th August, 1944, at 4-30 p.m. Col. Berkeley-Hill was thoroughly identified with India and in his death India has lost one of the greatest psychiatrists of the present time. His father was a reputed physician in London and the son's choice of his profession was largely determined by the influence of the father. Owen Berkeley-Hill had broad sympathies and was singularly free from all sorts of prejudices and conventions. He married an Indian lady from Malabar according to Brahmo rites. He has left his widow, two sons and two daughters to mourn his loss. One of his sons was killed in action as a Flying Officer at Malta and this was a great shock to him.

Owen Berkeley-Hill was a man of wide culture and learning. He knew as many as 15 different languages including French, German, Swaheli, Telugu, etc. He served in Africa during the last Great War and for a long time before his retirement was in charge of the European Mental Hospital at Kanke, Ranchi. Under his able management the efficiency of the institution rose to a great height and when a few years back the members of the League of Nations visited the hospital during their tour in India they expressed the opinion that it was the best managed mental hospital they had ever seen. From the beginning of his career as a mental specialist Berkeley-Hill was interested in psycho-analysis. He was one of the foundation members of the Indian Psycho-analytical Society. He wrote numerous articles in lay and technical journals on various psychological subjects including psycho-analysis and psychiatry. He was for some time the editor of the *Quarterly Bulletin* published by the Indian Association for Mental Hygiene. His writings have a literary grace which is peculiarly his own. One of his books which dealt with the question of Hindu-Moslem difference was proscribed by Government as it was thought that it contained expressions which might be offending to both the communities. Berkeley-Hill had a frankness which was unsparing even to himself. His autobiography which has gained immense popularity is an example in point.

His sympathy for India and the Indians knew no bounds. During the August riots of 1942 he was wantonly and mercilessly assaulted by a mob near Patna but he never bore any grudge towards anybody on that account. He made India his home and after retirement from service he settled down at Tatisilwai near Ranchi where he built for himself a magnificent house. He continued to work as a mental specialist even after his retirement and his clientele came from all over India. His popularity as a mental physician was very great indeed and there is no doubt that he will be very much missed by mental sufferers. Col. Berkeley-Hill was for some time the editor of the *Indian Journal of Psychology* and president of the Indian Psychological Association.

G. BOSE.

Read on 6-11-1944.

DR. E. L. G. CLEGG (1894-1944).

By the death of Dr. E. L. G. Clegg at the age of 50, the Geological Survey of India has lost its Director, and the Government of India an officer of outstanding administrative ability.

Dr. Clegg was born at Manchester in 1894, and was educated in the Central High School and in the Victoria University, Manchester. He served through the 1914-18 war as an officer in Northumberland Fusiliers and saw active service in France and Italy. After the war he took his M.Sc. from Manchester, and joined the Geological Survey of India as an Assistant Superintendent on the 1st December, 1920.

During most of his service he worked in Burma, but from 1926 to 1930 he remained in Calcutta, first as Curator and then as Officer-in-Charge of the Geological Survey Office. During this period he was also part-time Professor of Geology at the Presidency College, Calcutta, and Lecturer in Geology at the Bengal Engineering College, Sibpur. He also took a very keen interest in the work of the Mining.

Geological and Metallurgical Institute of India, being one of its Joint Honorary Secretaries from 1927 to 1930, and its Vice-President in 1943.

In Burma Dr. Clegg mapped parts of the Minbu and Thayetmyo districts, publishing a Memoir thereon in 1938; while he also studied the Mogok stone tract and made numerous traverses in the defiles of the Irrawaddy, the Jade mines district and elsewhere, the results of this work being published in 1941 as a Memoir entitled 'The Cretaceous and Associated Work of Burma'. On the palaeontological side he made a special study of the *Echinoidea* collected by various officers of the Geological Survey of India in the Persian Gulf area, a description of which he published in 1933. He was given the degree of D.Sc. from Manchester University in 1938.

During much of his time in Burma Dr. Clegg was Officer-in-Charge of the Burma Party, and he obtained a very detailed knowledge of Burma's mineral resources, including her oil. This enabled him to publish a valuable paper on 'The Mineral Deposits of Burma', and a Bulletin on 'Tin and Wolfram', the latter appearing a few months before his death.

On returning from Burma to India in June 1942, after a short spell in the Central Provinces and Baluchistan, he was appointed Director of the Geological Survey of India on July 1st, 1943, and since then until his death on September the 8th this year, he was actively engaged in the important duties associated with his post, and was elaborating a scheme for the expansion of his department at the time of his death.

By his death the Geological Survey loses an able administrator whose knowledge and experience would have been invaluable in the immediate post-war years.

W. D. WEST.

Read on 6-11-1944.

WILLIAM ALEXANDER KYNOCK CHRISTIE (1882-1944).

An obituary notice from the pen of Sir Lewis L. Fermor, F.R.S., recording the death of Dr. W. A. K. Christie in London on the 16th June, after a short illness, has appeared in *NATURE* (September 30, 1944, vol. 154, No. 3909, pages 421-2). The news of the Doctor's death was very unexpected to his friends in India, and he has left many friends in this country, many of whom were looking forward to see him again as soon as they were able to wind up their affairs here. Dr. Christie is remembered for his great talents, his never tiring kindnesses, his remarkable consideration for others, and his immense helpfulness both to his colleagues in scientific work and to others in all kinds of ways—socially, financially and by actually doing work for them. It is true that Christie published few scientific papers, but he was too busy helping others that he found little time to write his own observations and researches. As he expressed it in a letter to me from Paris several years ago, '... for, as you of all people know, I am much better tearing other peoples' bits of composition than in writing my own story'. And he continued in reply to some suggestions I had made relating to the mode of formation of laterite, '... To my mind it is too vague, too nebulous. You've got lots of suggestive ideas but their relevancy and their application to the problem are not there and I should be surprised if you found them in the literature. I'd like to see you with a scrum of Leclanche porous pots and pints of colloidal silica and bags of colloidal alumina and kilos of colloidal $\text{Fe}(\text{OH})_3$ and millivoltmeters and scraps of Pt foil and electroscopes, showing how things work. And, mind you, it's not a question of the explanation being too tedious. . . . I dare say I'm much too insistent in my notions about direct experiment, and the time factor—which made my last letter to you seem as of yesterday you remember—makes many a geological problem experimentally insoluble, but you're inclined to be the other way. . . .'

Doctor's friends will remember him by the little extract I have given above, and also the following, for he went on to actually help after his first broadside: 'Talking about literature I had a really hard job with your bibliography for I ran down to its original in the library everything that was there, which was, I think, more than

you did yourself. Reckoning 7 hours a day it must have taken me weeks, a large part of it being wasted on German "traveller's tales" that you'd taken in French from 'Dubois' bibliography which I didn't spot until late on.' He added further, 'Talking about Fermor reminds me that he charged me with a mission . . . and as I agreed with him I said I'd brave your wrath and take it on. It was the danger of the journalistic article . . . although the article is what is wanted by the editor, it may not be—on account of lack of time and opportunity for the necessary work—be what is expected by the geologist of reputation from the geologist of reputation . . . that is what counts . . . and now I've said—wilt forgive me? I like the cheek with which I tell you off—myself meriting whips and scorpions.' Perhaps no society has had so much assistance from any of its members as has the Royal Asiatic Society of Bengal from Dr. W. A. K. Christie. He had joined the Geological Survey of India as Chemist in November (17th) 1906 and from before 1914 until Mr. Van Manen was appointed General Secretary of the Society in 1923 Christie attended to these duties in an honorary capacity, and even afterwards when Mr. Van Manen was on leave or the President needed advice or other assistance Christie gave it freely and in a fashion and so thoroughly that there was little left to be done. It was only natural that Christie became President of the Society after having already been made a Fellow in 1919. After 26 years' service in the Geological Survey of India Christie retired in October 1932. During this period he had been President of the Bengal United Service Club in Calcutta, a keen member of the Royal Calcutta Turf Club, and the member of several other Clubs in Calcutta (in all of which he was sometime a committee member and one who was always sought after).

There is no question that Dr. Christie was a 'sahib' as well as scholar, and endowed with great gifts—good presence, extreme patience, wonderful knowledge, exceptional thoroughness, clear vision and full of the milk of human kindness though not lacking in sharp or clever remark when necessary. He was born in Edinburgh on the 2nd October, 1882, the youngest son of Charles Robert Christie and Margaret Catherine Paterson. He was educated successively at Daniel Stewart's College, the Heriot Watt College and the University at Edinburgh, where he secured the degree of B.Sc. with special distinction in chemistry. He then went to the University of Zurich and obtained his Ph.D. He served in France during the last war, and his great chemical knowledge and his greater experimental skill were well appreciated by his military colleagues. His services were placed at the disposal of His Majesty's Mint in Calcutta from 1918 to 1920. In 1936 he returned to India as a special technical officer in what was then the Principal Supply Officer's Committee (India). He was in England on leave when war broke out afresh in 1939 and his services were retained at the India Office until his death. In 1930 he had married Miss Winifred Davidson and Mrs. Christie, who survives him, has the sympathy of all her husband's friends in the great loss she has sustained by his death. In the Geological Survey of India Christie will always be remembered by his work in establishing the 'wind borne' character of some of the salt in the Rajputana lakes. To the Royal Asiatic Society he will be remembered by the unwearied work he did for the Society and its Presidents and Fellows and members for more than 20 years, work which a whole-time Secretary of the calibre of Mr. Van Manen found difficult to do as thoroughly and efficiently. He will be remembered in Calcutta by those who sought his help and guidance and advice, and perhaps by those who were saved expense or in other ways in the episode of the ship which arrived in Calcutta with a cargo of chemicals after a maiden voyage and was threatened with fire. Indeed matters had got to the stage that it was considered advisable to scuttle the steamer when Christie's advice was sought, and only given when it was agreed it should be followed. By his energetic action and chemical skill the ship was saved and the chemicals largely secured undamaged in the course of a few hours' carefully organized and directed operations. I believe the only gift he accepted for this great piece of work was a gold cigarette case—to remind those concerned, when offering them a smoke, that a chemist is to be depended on as much outside as inside the laboratory. Of Christie's ability as a chemist I think it is enough to say that he was in the very

front rank of any chemists in any country including Germany or any other supposed home of great chemists, not forgetting the United Kingdom itself.

CYRIL S. FOX.

Read at the Monthly Meeting on 6-11-1944.

DR. HENRICH LEUDERS (1869-1943).

Dr. Leuders took to Sanskritic studies and Indological research under the inspiration of eminent German Sanskritists like Dr. Bühler and Dr. Kielhorn. Dr. Leuders made a remarkable contribution to Indian Epigraphy by publishing his 'List of Brāhmi Inscriptions', in the *Epigraphia Indica*. Dr. Leuders with his learned wife (once his pupil), analyzed the valuable manuscript materials brought by the German Archaeological Mission (1911-1914) to Central Asia; and he had a satisfaction of announcing to the learned world the discovery of the lost dramatic fragments of the illustrious poet, Asvaghosa. He also recovered fragments of the works 'Kalpanā Manditikā' (circa 300 A.D.) of Kumāralāta.

Prof. Leuders was a life-long student of Sanskrit, publishing his first studies on Vedic phonetic in 1895. In 1897 he published his first paper on the epic literature of India entitled 'Raya Sṛnga Saga'. From that time he felt drawn to the task of bringing out a critical edition of the text of the Mahābhārata, a task which was fulfilled by his beloved Indian pupil, Dr. V. Sukthankar. He served, for years, in the editorial board of the Bhandarkar Institute, Poona, which undertook the task of publishing the critical edition of the Mahābhārata.

Prof. Leuders occupied the chair of Sanskrit in the University of Berlin and also served the German Oriental Society as its General Secretary. In 1927-28 Dr. and Mrs. Leuders visited India and Prof. Leuders delivered a series of valuable lectures at the University of Calcutta and at the Visva-Bharati of Dr. Rabindranath Tagore. He collaborated for a while with Dr. Sukthankar in Poona. He was elected Honorary Fellow of our Society on 4-9-39. His death in the midst of the world war in 1943 will be regretted by Sanskritists all over the world.

K. NAG.

